OTC Sources under the Federal NO_x Budget Trading Program:

Guidance on Changing Monitoring Methods and Upgrading Monitoring Plans to EDR v2.1

Clean Air Markets Division
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INTRODUCTION AND BACKGROUND

Purpose of this Document

The U.S. Environmental Protection Agency (EPA) has prepared this guidance to assist sources in States that are participating in the Ozone Transport Commission (OTC) NO_x Budget Program (NBP) as they transition to a larger regional NO_x trading program developed under a NO_x SIP Call and in response to section 126 petitions filed by a number of Northeastern States. Under the OTC program, sources use monitoring requirements developed under an OTC monitoring guidance document. Under the new Federal NO_x Budget Trading Program (Federal NBP), sources must follow procedures set out in 40 CFR Part 75, Subpart H. This document explains how the Part 75 requirements differ from the OTC monitoring options and what monitoring plan changes you will have to make.

Intended Audience

If you currently monitor and report under the OTC NBP and use Electronic Data Reporting (EDR) v2.0, then you should use this document to help you determine what monitoring and monitoring plan reporting changes you will have to make. If you own or operate an Acid Rain Program affected unit that also is subject to the OTC NBP, this guidance is not applicable -- you already must meet the Part 75 requirements and use EDR v2.1. Also, if you will be affected by the Federal NBP but are not affected under the OTC NBP, this guidance is not applicable; the guidance is aimed at sources that are transitioning from OTC to Federal NBP, not sources in non-OTC States that will be developing NO_x mass monitoring for the first time. EPA encourages sources in both OTC and non-OTC States to review the "Small Entity Compliance Guide: Federal NO_x Budget Trading Program (40 CFR Part 97)" (see http://www.epa.gov/airmarkets/fednox/126secg.pdf for a copy of that guidance), which provides a general overview of the monitoring requirements you will have to meet under the Federal NBP.

Document Organization

This brief introduction provides some general background on the OTC and Federal NBPs. Section 1 then describes how to report during the "transition" quarter (i.e., the first quarter for which you report an EDR v2.1 file) and how to determine start and end dates for various records. Sections 2, 3 and 4 describe changes for three types of units:

- Coal-fired units;
- Oil- and gas-fired units; and
- Low mass emissions (LME) units

For coal-fired units and oil- and gas-fired units, this document treats each possible monitoring configuration under the OTC NBP as a possible "case" and then for each case presents the specific options and changes that are required to convert to an acceptable Part 75 monitoring option and EDR v2.1 monitoring plan. Also, for most cases, the document includes a specific case example to demonstrate how the monitoring plan

would change from EDR v2.0 to EDR v2.1. There are 11 cases for coal-fired and oil- and gas-fired units.

The third type of unit -- a low mass emissions unit -- is a subset of oil- and gas-fired units. LME units are oil- and gas-fired units that meet an actual and calculated emission threshold ($\leq$50 tons NO_x per year or $\leq$25 tons NO_x per ozone season). Under the OTC NBP, there were no special monitoring provisions for this unit type. Because the option for an LME unit potentially applies to any oil- or gas-fired unit, this document presents the LME monitoring option, and the monitoring and monitoring plan changes it involves, in a separate section rather than as an option under each oil- and gas-fired unit case.

Section 5 provides a comparison of the OTC and Subpart H monitoring and testing requirements so that you can determine what other changes will be needed when you start reporting using EDR v2.1.

Section 6 is for sources that plan to report only during the ozone season, rather than reporting all four quarters each year. This section describes what tests you must perform, when you must conduct them, and how you must report them.

Finally, Appendix A identifies the EDR monitoring plan changes that will apply generally to all units because, regardless of monitoring method changes, you will need to make at least some formatting changes to switch from EDR v2.0 to EDR v2.1 reporting. These types of changes are found in Appendix A so that they do not have to be repeated in each case. However, each case does list which of these general changes applies to each Part 75 monitoring option. The formatting changes include:

- New record types in EDR v2.1
- Record types used in EDR v2.0 that have been discontinued in EDR v2.1
- Added/discontinued fields in record types that appear in EDR v2.0 and v2.1
- Codes that change between EDR v2.0 and v2.1 for reporting in already existing fields

In addition to Appendix A, you should also use the EDR v2.1 Reporting Instructions -- which contain detailed descriptions of each EDR v2.1 record type and field -- to help you make changes in your EDR.

OTC NO_x Budget Program

On September 27, 1994, OTC adopted a Memorandum of Understanding for the development and proposal of the OTC NBP, a region-wide NO_x emission reduction program that began in 1999. Under the OTC NBP, boilers, turbines and indirect heat exchangers above certain size

thresholds must meet NO_x emission limits during the ozone season (May 1- September 30) to achieve regional emission reductions. The affected sources receive an allocation of emission allowances under State regulations. Each source can use those allowances to cover their emissions, can purchase allowances from others to cover their emissions (or to bank the allowances for future years), or can sell any surplus allowances. To account for their emissions, each source must follow specific monitoring procedures. For the OTC NBP, each State has required their sources to implement the procedures contained in the "NO_x Budget Program Monitoring Certification and Reporting Instructions," July 3, 1997 and "Guidance for Implementation of Emission Monitoring Requirements for the NO_x Budget Program," January 28 1997. The OTC States that are participating in the NBP are: CT, DC, DE, MA, MD, NH, NJ, NY, PA and RI.

Federal NO_x Budget Program

The EPA has developed the Federal NBP based in part upon analyses conducted by the Ozone Transport Assessment Group (OTAG). OTAG was a partnership between the EPA, the Environmental Council of the States and various industry and environmental groups which assessed the long-range transport of ozone and ozone precursors. The initial OTAG findings were translated into rule requirements in two separate actions.

First, on September 24, 1998, EPA finalized a rule (known as the NO_x SIP Call) requiring 22 States and the District of Columbia to submit State implementation plans that address the regional transport of ground-level ozone. By improving air quality and reducing NO_x emissions, the actions directed by these plans will decrease the transport of ozone across State boundaries in the eastern half of the United States. Originally, the rule required emission reduction measures to be in place by May 1, 2003; that date was extended to May 31, 2004, in a court decision that generally upheld EPA's rulemaking.

Second, EPA published "Findings of Significant Contribution and Rulemaking on Section 126 Petitions for Purposes of Reducing Interstate Ozone Transport" on January 18, 2000 under authority of section 126 of the Clean Air Act. Eight northeastern States had submitted petitions under section 126 of the Act that sought ozone related reductions from certain sources in upwind states. EPA made a technical finding for each of the petitions. The Agency determined that large, fossil fuel fired stationary sources in certain upwind States should be required to reduce their ozone season emissions to mitigate the effect these sources have on ozone non attainment in downwind states. The sources that are affected by this rule include large electric generating units (EGUs) and large industrial/ institutional boilers or turbines (non-EGUs) that emit NO_x from burning fossil fuels. These NO_x emissions contribute to the nonattainment of the National Ambient Air Quality Standards (NAAQS) for ozone in the downwind states.

In the NO_x SIP Call, EPA established State NO_x emission budgets. EPA based the point source budgets on presumed levels of control applied to large EGUs, non-EGUs, certain internal combustion engines and certain cement kilns. For the large EGUs and non-EGUs, EPA developed a model trading rule that States could adopt as part of their SIP implementation strategy. The model rule was promulgated on October 27, 1998, as 40 CFR Part 96. In this model, the States would determine allowance allocations and have certain other responsibilities, and EPA would manage the trading system so that it could operate on an interstate basis. All monitoring under the model rule must follow the requirements EPA has developed under Subpart H of 40 CFR Part 75. For the section 126 rulemaking, EPA similarly developed an interstate trading program for generally the same group of sources, and required adherence to Part 75 monitoring procedures. The Federal program was promulgated on January 18, 2000, as 40 CFR Part 97. The main difference is that under the section 126 rulemaking, the compliance date is still set for May 1, 2003, and EPA is responsible for allowance allocations.

OTC States' Response to EPA's Federal NBP Actions

Each of the OTC States subject to Federal NBP actions (all except for NH) have submitted a SIP to EPA in response to the NO_x SIP Call. Each of the SIPs contains a trading program component consistent with the Federal NBP, and each requires compliance by May 1, 2003. Assuming final approval of these SIP submittals by the OTC States, the OTC NBP States will implement a trading program under the SIP call and not the section 126 rulemaking.

Changes for OTC NBP Sources

One of the main differences between the Federal NBP under the SIP Call regulations and the OTC NBP is the monitoring requirements each source will face. For units that are affected by the Acid Rain Program, the changes are not relevant because those sources already are required to follow Part 75 procedures. For other units, the changes required may be minimal or somewhat significant; it will depend on the current monitoring option that a unit uses under the OTC NBP. The monitoring changes take effect on May 1, 2002, one year earlier than the effective date of the trading program change.

This document will help you understand what monitoring changes may be required, both in terms of the monitoring options you use and the electronic reporting of monitoring plan data to EPA.

SECTION 1: HOW TO ADD, DELETE AND MODIFY RECORDS IN THE MONITORING PLAN

Purpose of this Section

Updating your monitoring plan to meet Subpart H requirements and the EDR v2.1 format will require adding records, changing codes and "deactivating" records that will no longer be applicable. This section describes how to report during the "transition" quarter (i.e., the first quarter for which you submit an EDR v2.1 file) and how to determine start and end dates for various record types.

What to Include in the Transition Quarter

EPA maintains an historical database of monitoring plan information that supports the interpretation and evaluation of QA test data and is used for program implementation purposes. Therefore it is important that you provide complete and accurate monitoring plan data, including records indicating the appropriate "end" date and delete status when a methodology, system, formula, etc. will no longer be used. Information to "deactivate" these records should be included in the file for the quarter during which the change takes place. So, for OTC sources, the first quarterly report in EDR v2.1 (required by 2nd Quarter 2002) should include both the OTC records that are being deactivated as well as the new records for Subpart H.

How to Report Changes in Each Record Type

Most record types have either a status field, begin and end dates, or both. Use these fields to indicate whether and when the records are active. Once you have reported records as status "delete" and with the appropriate end date in a particular quarterly report file, you may remove those records from your monitoring plan for future EDR submissions.

Additional Note about MDC Error Messages

If you are using MDC to make or evaluate these monitoring plan changes, you will notice that error messages about invalid codes are generated on the updated plan when you evaluate using any quarter and year that begins before the "end" date on the OTC records that are being deactivated. These errors should not appear if you change the evaluation quarter and year to a later time period when only the Subpart H records are active.

RT 505

Do not include the existing RT 505 for Program NBP in the transition quarter. Instead, add a new RT 505 for Program OTC-SUBH and then remove the RT 505 for NBP. For OTC-SUBH, the Program Participation date in column 24 should be the beginning of the first reporting period for which you are submitting in EDR v2.1. For example, if you report on an ozone season basis and submit your first EDR v2.1 file for 2nd Quarter 2002, the file will include emissions data starting on May 1, 2002 so your Program Participation Date should also be May 1, 2002 (whether or not you are actually operating on that day). If you choose to comply with Subpart H and EDR v2.1 in an earlier quarter, the Program Participation date should be the first day of that earlier quarter. Contact your State agency to determine the correct State Regulation Code (column 32) for the new RT 505.

RT 507

To maintain qualification as a peaking unit, be sure to report a new RT 507 for the current calendar year or ozone season.

RT 510

Defining a new system. If you are changing methodologies, define a new system or systems with a new unique system ID. Do not change a current monitoring system into a different type of system. For example, if you are converting from a NO_x emission rate CEM to Appendix E NO_x (or vice-versa), you must define a new NO_x system with a new system ID and deactivate the old NO_x system. Similarly, if switching from a NO_x concentration system to a NO_x emission rate system (or vice-versa), you must define a new system with a new system ID and deactivate the old system (see **Deactivating** below).

Adding. In the first quarter you report a new system, report the Status (col. 16) for each component in the newly defined system as "A." For all records in the system, report the first date that the system is used to report any data (including initial certification test data) in the "first date system reported data" field (col. 100). The "first date" must be the same for all components in the system.

Deactivating. In the last quarter you report data from a system, or the following quarter if you used that system through the end of the quarter, report "D" as the status (col. 16) and report the "last date system reported data" date (col. 108) for each component. The "last date" must be the same for all components in the system. After reporting this deactivated system for one quarter, you may remove those records entirely for your next quarter submission. (Note: if you receive errors from ETS about the deactivated system because it was in use for part of the quarter, change the status field to C for each component in the system for this quarter, and then report the system again the next quarter with the status as D for each component (report the appropriate "last date" in both cases).)

Changing from single scale to dual range. If you have a single-scale NO_x monitor and you must (or elect to) install a dual range monitor (or you begin using the dual range capability of your current monitor), there are three methods of updating the plan. If you have installed a new monitor and will be conducting the initial certification testing of that monitor while the old monitor is still reporting emissions data, you must use method 3.

Method 1: Change the component type of the existing NO_x component to NOXA.

Method 2: Define a new component with component type NOXL and add it to the existing NO_x system.

Method 3: Deactivate the current NO_x system and define a new NO_x system containing one new dual range NO_x component (component type NOXA) or containing new high and low scale NO_x components (component types NOXL and NOXH).

See RT 530 below for related changes.

Changing from single scale with the OTC overscaling provisions to use of the Part 75 default high range provisions. If you have a single-scale NO_x analyzer with a span value less than the maximum potential concentration (i.e., you are using the default overscaling option permitted for OTC monitoring), and you elect to continue using that monitor (and span value) and use the default high range from Part 75, you have two possible methods for revising your plan:

Method 1: Mark the status of the existing NO_x component as D and add a new NOXL component.

Method 2: Deactivate the existing NO_x system, define a new NOXL component and add a new NO_x system with that NOXL component.

See RT 530 below for related changes.

RT 520

Defining a new formula. If you add formulas for new calculations, report each new formula with a new unique formula ID and report the status in column 10 as A.

Updating the formula code. If for Subpart H you are using the same calculation that references the same types of monitors or constants that you used for OTC, but the formula code has changed, simply update the formula code field in the existing record. See Appendix A of this document for a list of code changes in RT 520.

Deactivating. For formulas that will no longer be used under Subpart H, report the status in column 10 as D. It is not necessary to update any formula codes for formulas that you are deactivating.

RT 530

Defining a new span. Add the appropriate span records for each new CEMS parameter. For the Span effective date and hour in columns 68 and 74, report the date and hour that this span value was first used to test the CEMS or measure emissions.

Deactivating. If you no longer need a span record for a particular parameter because a CEMS methodology is no longer used, report the last date and hour that the span record was in use for the parameter by completing the Span Inactivation Date and Hour (col. 76, 82). After

reporting this deactivated span value for one quarter, you may remove this record for your next quarterly submission.

Revising span and range. If the annual review of MPC, span and range (required by Part 75, Appendix A) necessitates changing one or more of those values, deactivate the previous span record with the appropriate end date and add a new span record with the adjusted values and the appropriate begin date.

Meeting the dual range requirements. If your unit has add-on controls and you are using a single-scale NO_x analyzer to measure controlled emissions and relying on the OTC default overscaling option for uncontrolled hours (up to 72 hours during the ozone season), you will either have to go to dual range monitoring or use the default high range provisions of Part 75.

Changing from single scale to dual range. If you are adding a low scale, add a span record for that new range. If you are adding a high scale range to monitor uncontrolled emissions, deactivate the existing high scale record . Add two new span records -- one for NO_x scale H and one for NO_x scale L.

Changing from OTC overscaling to using a default high range. The existing NO_x span record indicates that the scale is high (H), so deactivate it. Add two new span records: one for NO_x scale H and one for NO_x scale L. See the ***EDR v2.1 Instructions*** for details about which fields to complete for the high scale span record and see the ***Acid Rain Program Policy Manual***, Question 10.29 for information about reporting hourly values using the default high range provisions.

RT 531

Adding. Use the Value Effective Date and Hour in columns 45 and 53 to indicate the start date for the value. This date should match the start date of the relevant methodology. See the ***EDR v2.1 Instructions*** for detailed information about what values to define in RT 531.

Deactivating. For values that are no longer defined in RT 531, such as NO_x MER (for missing data purposes), report the Value No Longer Effective Date and Hour in columns 55 and 63. This date should be the last day and hour of the last quarter that you reported using EDR v2.0.

RT 540

Adding. If you have defined a new oil or gas system, add RT 540 for that system and report the Submission Status in column 60 as A.

Updating Codes. If you have an existing RT 540 for an oil or gas system that you will continue to use, update the Initial Accuracy Test Method in column 38 to match the appropriate code that has been

established in EDR v2.1 and report the submission status in column 60 as C.

Deactivating. If you are deactivating an oil or gas system, report the Submission Status in column 60 as D in the RT 540 for that system.

RT 585

Updating Codes. If you are keeping your current monitoring methods, simply update the codes in the existing records. For example, in EDR v2.1 for methodology CEM, the fuel type must be NFS and the missing data approach should be changed to SPTS.

Adding. If you are instituting new methodologies, add the appropriate RTs 585 and report the Methodology Start Date in column 34 as the first date for which emissions or heat input were or will be reported using this method. Also add a RT 585 for moisture (parameter H2O) if you need that value for any of your calculations.

Deactivating. If you are discontinuing a methodology, report the Methodology End Date in column 42 as the last date for which emissions or heat input were or will be reported using this method.

RT 587

Updating Codes. If you have been reporting a fuel as secondary and it qualifies as an Emergency or Ignition (Startup) fuel type, change the Fuel Indicator in column 29 to the appropriate new code.

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SECTION 2: COAL-FIRED UNITS

Use Table 2-1 to determine the Case number of your OTC monitoring scenario. Then go to the detailed discussion of that Case number in this section to determine the changes you need to make.

Monitoring Methodology Changes

Generally, there are only limited options for monitoring coal-fired units under either Part 75 or the OTC Monitoring Guidance. Therefore, you will not have significant changes or new options to convert your OTC monitoring to Part 75 requirements unless you are not currently monitoring heat input. Table 2-1 summarizes the monitoring methodology changes that may be required for your coal-fired OTC unit to comply with Part 75, Subpart H monitoring and monitoring plan reporting requirements. This section then presents the changes in a series of four cases so that you can review the changes based on your specific monitoring configurations.

You should note that each case is reported at the unit level. If you defined common stacks or multiple stacks for use with your current OTC monitoring, those designations should most likely remain in the Subpart H monitoring scenario. (This may not be true for unmonitored bypass stacks -- see additional note on bypass stacks at the end of ***Appendix A***.) Also, in each case you will find a list of general EDR monitoring plan Record Type (RT) changes that will have to occur as you convert to Part 75 monitoring. Use the list to identify the general record type changes that apply, and consult the detailed identification of the changes in ***Appendix A, Changes for All Units***.

Table 2-1: Summary Comparison of NO_x and Heat Input Monitoring Methodologies in the OTC and Federal NO_x Budget Programs for Coal/ Solid Fuel Fired Units

Unit Type	Current OTC Monitoring Method		Change Required for Subpart H Monitoring?	Case #
	NO_x	Heat Input		
Coal	NO_x Emission Rate CEMS	Stack Flow Monitor and Diluent (O_2/CO_2) CEM	No changes needed to basic monitoring method	1
		Alternative Heat Input Method	These OTC methods for Heat Input are not allowed under Subpart H. Coal-fired units must use a stack flow monitor and diluent CEM to determine heat input	2
		Maximum Heat Input		
	NO_x Concentration CEMS and Stack Flow Monitor	None (only NJ required heat input reporting for OTC)	Heat Input is required for State allocation purposes, so coal-fired units must use a stack flow monitor and diluent CEM to determine heat input	3
		Stack Flow Monitor and Diluent (O_2/CO_2) CEM	No changes needed to basic monitoring method	4

Case 1

NO_x Emission Rate CEM with Stack Flow and Diluent Monitor for Heat Input

Overview

No basic monitoring methodology change is required for either the NO_x emission rate methodology or the heat input methodology for Case 1. One key step is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/discontinued record types, changed codes) to convert your monitoring plan to EDR v2.1 format -- see ***Appendix A, Changes for All Units***, and consult the ***EDR v2.1 Instructions*** for further information on the following record types:

- RTs 503, 504, 505, 506, 508, 510, 520, 530, 531, 535, 536, 555, 556, 585 and 587.

Note! If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.

Case 1 Example Unit

Example Unit 1 is a circulating fluidized bed coal-fired unit. Since this unit is using CEMs for both NO_x Emission Rate and Heat Input, no basic monitoring methodology change is required for either the NO_x emission rate or the heat input methodologies. However, changes are required to upgrade from EDR v2.0 to v2.1. The attached comparison shows the changes made for each record type.

Example for Case 1: EDR Record Changes for a Coal Unit with CEMS for NO_x Rate and HI

RT 100	**EDR Version Changed from V2.0 to V2.1. Reporting Quarter and Year Changed**
OTC	10010000022001V2.0
SUBH	100100000**2002V2.1**
RT 102	**No Changes**
OTC/SUBH	102CASE 1 COGENERATION 4961NJ017 400835 744510
RT 504	**Fields Added in v2.1**
OTC	5041 CFB 468.019961201
SUBH	5041 CFB 468.019961201 **178 36 87 87**
RT 505	**New record reported for Subpart H Participation beginning on 4/1/2002**
OTC	5051 NBP B Q 19990501NJAC727-31NJ
SUBH	**5051 OTC-SUBH B Q 20020401 NJ**
RT 506	**New record type in EDR v2.1. Required for all units.**
SUBH	**5061 1 1 1 1996 100000100000**
RT 510	**Updated DAHS version**
OTC	5101 3AF3SFUFLOWP FLOWU FREEFLOWING FL-989 B11213 19990501 5101 DAH3SFUFLOWP DAHS GREAT DAHS SYSTEMS 1X 98RCM 19990501 5101 3AC3SNUNOX P CO2 DINMEASURERIGHT CO-4000 5H05003 19990501 5101 3AL3SNUNOX P NOXLDINMEASURERIGHT N-4000 49-316 19990501 5101 3AN3SNUNOX P NOXHDINMEASURERIGHT N-4000 49-316 19990501 5101 DAH3SNUNOX P DAHS GREAT DAHS SYSTEMS 1X 98RCM 19990501
SUBH	5101 3AF3SFUFLOWP FLOWU FREEFLOWING FL-989 B11213 19990501 5101 DAH3SFCFLOWP DAHS GREAT DAHS SYSTEMS **8Y** **98RCM** 19990501 5101 3AC3SNUNOX P CO2 DINMEASURERIGHT CO-4000 5H05003 19990501 5101 3AL3SNUNOX P NOXLDINMEASURERIGHT N-4000 49-316 19990501 5101 3AN3SNUNOX P NOXHDINMEASURERIGHT N-4000 49-316 19990501 5101 DAH3SNCNOX P DAHS GREAT DAHS SYSTEMS **8Y** **98RCM** 19990501
RT 520	**Updated formula code**
OTC	5201 U3FHHI F-15 S#(3AF-3SF)* (1/ 1800) * (S#(3AN-3SN)/100) 5201 U3FMNOXMF-10AF#(3FN) * F#(3FH) * T_1 5201 U3FNNOX F-6 (1.194 * 10**-7) * S#(3AN-3SN) * 1800 * (100/ (S#(3AN-3SN))
SUBH	5201 U3FHHI F-15 S#(3AF-3SF)* (1/1800) * (S#(3AN-3SN)/100) 5201 **C**3FMNOXM**F-24** F#(3FN) * F#(3FH) * T_1 5201 U3FNNOX F-6 (1.194 * 10**-7) * S#(3AN-3SN) * 1800 * (100/ (S#(3AN-3SN))

Example for Case 1: EDR Record Changes for a Coal Unit with CEMS for NO_x Rate and HI

RT 530	**Fields Added for Flow. Method updated and MEC/ MPC value added for CO_2.**
OTC	5301 CO2 HNA 20.000 20.000% 99050100 5301 FLOWHF 7500000.000 156.250 156.250KSCFM 99050100 5301 NOX HHD 251.500 0.465 300.000 300.000PPM 99050100 5301 NOX LHD 54.000 0.150 60.000 60.000PPM 99050100
SUBH	5301 CO2 H**HD** **20.000** 20.000 20.000% 99050100 5301 FLOWHF 7500000.000 156.250 156.250KSCFM 99050100 **9375000 9375000** 5301 NOX HHD 251.500 0.465 300.000 300.000PPM 99050100 5301 NOX LHD 54.000 60.000 60.000PPM 99050100
RT 531	**Deactivated FLOW and NOX records. Added CO2M default for diluent cap.**
OTC	5311 FLOW 7500000.000SCFH MD NFSAMPF 1999050100 5311 NOX 0.465LBMMBTUMD NFSAMPC 1999050100
SUBH	**5311 CO2M 5.000%CO2 DC NFSADCPD2002040100** 5311 FLOW 7500000.000SCFH MD NFSAMPF 1999050100**2002033123** 5311 NOX 0.465LBMMBTUMD NFSAMPC 1999050100**2002033123**
RT 535	**Designated Normal load field should be left blank in EDR v2.1.**
OTC	5351 ST 300**M**
SUBH	5351 ST 300
RT 536	**New record type added in EDR v2.1. Required for all units/stacks with any CEM system.**
SUBH	**5361 300 65H,MM 20011001**
RT 585	**Note code changes.**
OTC	5851 HI CEM NFSPLOAD 19990501 5851 NOXRCEM NFSPLOAD 19990501
SUBH	5851 HI CEM NFSP**SPTS** 19990501 5851 NOXRCEM NFSP**SPTS** 19990501
RT 587	**No Changes**
OTC/SUBH	5871 C 19990501 P

Case 2

NO_x Emission Rate CEMS with Either Alternative Heat Input or Maximum Heat Input

Methodology Changes

You do not have to change your basic NO_x emission rate methodology. However, you are not allowed to use the OTC Alternative Heat Input and Maximum Heat Input options under Part 75, Subpart H. You must install a stack flow monitor and use it in conjunction with the existing diluent monitor to determine heat input. If moisture correction is needed, you may either calculate hourly moisture from wet and dry O_2 readings, measure moisture directly using a moisture sensor or use the appropriate default value provided in Part 75. (Or, if the stack gas stream is saturated, e.g., if there is a wet scrubber associated with the unit or stack, you may use a temperature sensor and moisture look-up table.)

EDR Monitoring Plan Changes

You will have to add some record types and you will have to deactivate and delete others. One key step you must take is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

Note! If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.

The following sections describe the other specific changes you will have to make to a number of monitoring plan Record Types to reflect the monitoring changes you are making to convert to Part 75, Subpart H monitoring.

RT 510

Add (1): The new stack flow system comprised of the stack flow monitor and the DAHS software component.

Add (2): If you will be measuring moisture by the wet/dry O_2 method, define an H_2O system comprised of wet and dry O_2 components and the DAHS software. If you use a moisture sensor, define an H_2O system consisting of the sensor component and the DAHS software. If you will be using the look-up table for a wet scrubber stack, define an H_2O system

comprised of just the DAHS software component. (If you are using a moisture default value, do not define a moisture system in RT 510. Instead, add a RT 531 -- see below.)

Deactivate: The Alternative Heat Input system, if you had defined one in EDR v2.0.

RT 520

Add (1): A new heat input formula which references the flow component in the flow system and the diluent component in the NO_x system. Use Table 19: Heat Input Formula Reference Table in the ***EDR v2.1 Instructions*** to determine the correct formula for your monitoring situation -- it depends on diluent monitor type (CO_2 or O_2) and whether you sample on a wet or dry basis.

Add (2): A NO_x mass formula (code F-24) which references the NO_x emission rate formula and the newly defined heat input formula.

Add (3): An H_2O formula if you are using wet and dry O_2 monitors to determine stack moisture.

Deactivate: The NO_x mass formula that references the ALTHI or MHHI value.

RT 530

Add (1): A span record for stack flow.

Add (2): A span record for O_2, if not previously defined and you are using wet and dry O_2 monitors to determine stack moisture.

RT 531

Add (1): A record for the minimum potential $\%O_2$ for missing data purposes, if using an O_2 diluent monitor for the heat input calculation.

Add (2): If you need an hourly moisture value to calculate heat input and you elect to use the default value from Part 75, the appropriate $\%H_2O$ value (see ***EDR v2.1 Instructions*** for RT 531).

Add (3): If you have a moisture system, the minimum or maximum $\%H_2O$ for missing data purposes (see § 75.37(b)).

Add (4): A record for the appropriate diluent cap value if you intend to use those provisions (see formulas in Part 75, Appendix F, Sections 4 and 5).

Deactivate (1): The record for parameter HI or HR.

Deactivate (2): The record for parameter NO_x (which defined the MER value for missing data purposes).

RT 585

Add (1): A methodology record for parameter Heat Input (code HI in col. 10), Methodology Continuous Emissions Monitoring (code CEM in col. 14), and fuel type non fuel-specific (code NFS in col. 24).

Add (2): If you need a moisture value to calculate heat input or NO_x emission rate, add RT 585 for moisture (H_2O), indicating whether you are measuring moisture or using a default value.

Deactivate: The previously defined record for parameter HI (for either ALTHI or MHHI methodology).

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/discontinued record types, changed codes) to convert your monitoring plan to EDR v2.1 format -- see ***Appendix A, Changes for All Units***, and consult the ***EDR v2.1 Instructions*** for further information on the following record types:

- RTs 503, 504, 505, 506, 508, 510, 520, 530, 531, 535, 536, 555, 556, 585 and 587.

Case 2 Example Unit

Example Unit 2 is a Circulating Fluidized Bed Coal-Fired Unit. For the OTC NBP, this unit has been using a NO_x emission rate CEM combined with the Maximum Hourly Heat Input (MHHI) rate to determine NO_x mass. Since the default methodology (MHHI) is not allowed for this unit under Subpart H, the facility will be installing a new stack flow monitor and a wet basis O_2 monitor to use with the existing dry-basis O_2 monitor to determine heat input and stack moisture. The attached comparison shows the changes made for each record type.

Example for Case 2: EDR Changes for a Coal Unit using MHHI

RT 100	**EDR Version Changed from V2.0 to V2.1**
OTC	10020000022001V2.0
SUBH	100200000**22002V2.1**
RT 102	**No Changes**
OTC/SUBH	102CASE 2 COGENERATION 4911NY009 404411 740743
RT 504	**Fields Added in v2.1**
OTC	5042 CFB 510.019901107
SUBH	5042 CFB 510.019901107 **110 0 400 400**
RT 505	**New record reported for Subpart H Participation beginning on 4/1/2001**
OTC	5052 NBP B Q 19990501NJAC727-31NJ
SUBH	**5052 OTC-SUBH B Q 20020401 NJ**
RT 506	**New record type in EDR v2.1. Required for all units.**
SUBH	**5062 2 2 2 1990 200000200000**
RT 510	**Flow and Moisture Systems Added. DAHS version updated.**
OTC	5102 001103UNOX P DAHS PERFECT DATA V22.2 2001-99 19990501 5102 005103UNOX P NOX EXTANALYSIT C250 005-88 19990501 5102 006103UNOX P O2D EXTANALYSIT C960 006-78 19990501
SUBH	5102 001103**C**NOX P DAHS PERFECT DATA **V400** 2001-99 19990501 5102 005103UNOX P NOX EXTANALYSIT C250 005-88 19990501 5102 006103UNOX P O2D EXTANALYSIT C960 006-78 19990501 **5102 001104AFLOWP DAHS PERFECT DATA V400 2001-99 20020401** **5102 008104AFLOWP FLOWU FLOW RIGHT, INC. FANCY FLOW 134-8765 20020401** **5102 001105AH2O P DAHS PERFECT DATA V400 2001-99 20020401** **5102 006105AH2O P O2D EXTANALYSIT C960 006-78 20020401** **5102 007105AH2O P O2W IS AIR UP THERE WETWON 1 9907768 20020401**
RT 520	**Old NO_x mass formula marked for deletion, new formulas added for new heat input determination.**
OTC	5202 U107NOX 19-1 E = (1.194 * 10**-7) * S#(005-103) * 9780 * 20.9 / (20.9 - S#(006-103)) 5202 U109NOXMF-10AMNOX = F#(107) * UNIT MAXIMUM HEAT INPUT RATE * TH
SUBH	5202 U107NOX 19-1 E = (1.194 * 10**-7) * S#(005-103) * 9780 * 20.9 / (20.9 - S#(006-103)) 5202 **D**109NOXMF-10AMNOX = F#(107) * UNIT MAXIMUM HEAT INPUT RATE * TH **5202 A110HI F-18 HI=S#(008-110)* [(100-F#(111)) / 100 * 9780] * [(20.9-S#(006-103)) / 20.9]** **5202 A111H2O M-1 100*(S#(006-105) - S#(007-105)) / S#(006-105)** **5202 A112NOXMF-24 NOXM=F#(107) * F#(110) * t_h**

Example for Case 2: EDR Changes for a Coal Unit using MHHI

RT 530	**Added span record to support addition of flow system. Note new fields in RT 530 for flow.**
OTC	5302 NOX HHD 380.000 0.852 400.000 500.000PPM 99050100 5302 O2 H 25.000 25.000% 99050100
SUBH	**5302 FLOW HD 45000000.000 940.000 940.000KSCFM 02040100 56400000 56400000** 5302 NOX HHD 380.000 0.852 400.000 500.000PPM 99050100 5302 O2 H 25.000 25.000% 99050100
RT 531	**Deactivated previous defaults. Added records for minimum %H_2O, minimum %O_2 and the diluent cap.**
OTC	5312 HI 510.000MMBTUHRPM C ANPC 1999050100 5312 NOX 0.852LBMMBTUMD NFSAMPC 1999050100
SUBH	**5312 H2OM 3.000%H2O MD NFSADEF 2002040100** 5312 HI 510.000MMBTUHRPM C ANPC 1999050100**2002033123** 5312 NOX 0.852LBMMBTUMD NFSAMPC 1999050100**2002033123** **5312 O2M 5.000%O2 MD NFSADATA2002040100** **5312 O2X 14.000%O2 DC NFSADCPD2002040100**
RT 535	**Designated Normal Load field should be left blank for OTC-SUBH Units.**
OTC	5352 ST 400**H**
SUBH	5352 ST 400
RT 536	**New RT in v2.1. Required for all units/stacks with any CEM system.**
SUBH	**5362 400 80H,MH 20020201**
RT 585	**Discontinued previous method for HI. Added records for HI and Moisture. Also note code changes.**
OTC	5852 HI MHHI C PNA 19990501 5852 NOXRCEM NFSPLOAD 19990501
SUBH	**5852 H2O MWD NFSPSPTS 20020401** **5852 HI CEM NFSPSPTS 20020401** 5852 HI MHHI C PNA 19991231**20020331** 5852 NOXRCEM NFSP**SPTS** 19990501
RT 587	**No Changes**
OTC/SUBH	5872 C 19990501 P

Case 3

NO_x Concentration CEMS and Stack Flow Monitor, No Heat Input Measurement

Methodology Changes

You do not have to change your methodology for determining NO_x mass emissions. However, since OTC States will require heat input for allowance allocation purposes, you must install a diluent monitor and use it in conjunction with the existing stack flow monitor to determine heat input. If moisture correction is needed, you may either calculate hourly moisture from wet and dry O_2 readings, measure moisture directly using a moisture sensor or use the appropriate default value provided in Part 75. (Or, if the stack gas stream is saturated, e.g., if there is a wet scrubber associated with the unit or stack, you may use a temperature sensor and moisture look-up table.)

You may keep your current NO_x concentration system (NOXC), continue using it in conjunction with stack flow to calculate NO_x mass and add a CO_2 or O_2 monitoring system to be used in conjunction with stack flow to calculate heat input. Alternatively, you may define a new NO_x emission rate system comprised of the NO_x and diluent monitors and the DAHS software. This new system would become the primary NO_x methodology; you can either discontinue use of the NOXC system or use it as a secondary method for determining NO_x mass. (If you define a NO_x emission rate system, you do not need to define a separate diluent system.)

EDR Monitoring Plan Changes

You will have to add some record types and you will have to deactivate and delete others. One key step you must take is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

Note! If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.

The following sections describe the other specific changes you will have to make to a number of monitoring plan record types to reflect the monitoring changes you are making to convert to Part 75, Subpart H monitoring.

RT 510

Add (1): If you elect to continue using NO_x concentration times flow rate as your primary NO_x mass methodology, define a new diluent system (comprised of the CO_2 or O_2 monitor and the DAHS software component). If you elect to change your primary NO_x mass methodology from NO_x concentration times stack flow rate to NO_x emission rate time heat input rate, define a new NO_x emission rate system (comprised of the NO_x and diluent monitors and the DAHS software).

Add (2): If you will be measuring moisture by the wet/dry O_2 method, define an H_2O system comprised of wet and dry O_2 components and the DAHS software. If you use a moisture sensor, define an H_2O system consisting of the sensor component and the DAHS software. If you will be using the look-up table for a wet scrubber stack, define an H_2O system comprised of just the DAHS software component. (If you are using a moisture default value, do not define a moisture system in RT 510. Instead, add a RT 531 (see below).)

Deactivate: The NO_x concentration system if you defined a new NO_x emission rate system and you do not plan to continue using NO_x concentration times stack flow rate as a secondary method for determining NO_x mass.

RT 520

Add (1): A heat input formula which references the flow component and flow system ID numbers and the diluent component ID (associate either with the new diluent system ID or, if defined instead, the new NO_x emission rate system ID). Use Table 19: Heat Input Formula Reference Table in the ***EDR v2.1 Instructions*** to determine the correct formula for your monitoring situation -- it depends on diluent monitor type (CO_2 or O_2) and whether you sample on a wet or dry basis.

Add (2): If you defined a new NO_x emission rate system, add a NO_x emission rate formula that references the NO_x and diluent components of that system. Also define a new NO_x mass formula (code F-24) to calculate NO_x mass emissions from NO_x emission rate and Heat Input.

Add (3): An H_2O formula if you are using wet and dry O_2 monitors to determine stack moisture.

Deactivate: If you defined a new NO_x emission rate system and you do not plan to continue using the NO_x concentration system, deactivate the NO_x mass formula that references the NOXC system.

RT 530

Add: A span record for the new O_2 or CO_2 monitor. Also add the flow rate span value and full-scale range (in scfh) to columns 90 and 99 of the span flow record.

RT 531

Add (1): The appropriate default $\%H_2O$ value, if you need an hourly moisture value to calculate heat input and you elect to use the default value from Part 75 (see ***EDR v2.1 Instructions*** for RT 531).

Add (2): The minimum or maximum $\%H_2O$ for missing data purposes (see § 75.37(b)), if you have a moisture system.

Add (3): A record for the minimum potential $\%O_2$ for missing data purposes, if using an O_2 diluent monitor for the heat input calculation.

Add (4): A record for the appropriate diluent cap value if you intend to use those provisions (see formulas in Part 75, Appendix F, Sections 4 and 5).

Deactivate (1): The previously defined FLOW MPF value.

Deactivate (2): The previously defined NO_x MEC/MPC value(s).

RT 585

Add (1): A methodology record for parameter Heat Input (code HI in col. 10), Methodology Continuous Emissions Monitoring (code CEM in col. 14), and Fuel Type Non Fuel-Specific (code NFS in col. 24).

Add (2): If you need a moisture value to calculate heat input or NO_x emission rate, add RT 585 for moisture (H_2O), indicating the appropriate methodology.

Add (3): If you elect to define a NO_x emission rate system, add RT 585 for parameter NOXR, methodology CEM and fuel code NFS and indicate that this is a primary method. Deactivate the existing RT 585 for parameter NOXM. If you plan to continue using the NO_x concentration system, then add another RT 585 for parameter NOXM, methodology CEM , and fuel code NFS, with the same start date as the NO_x emission rate method, but indicate that it is a secondary methodology.

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/discontinued record types, changed codes) to convert your monitoring plan to EDR v2.1 format -- see ***Appendix A, Changes for All Units***, and consult the ***EDR v2.1 Instructions*** for further information on the following record types:

- RTs 503, 504, 505, 506, 508, 510, 520, 530, 531, 535, 536, 555, 556, 585 and 587.

Case 3 Example Unit

Example Unit 3 is a dry-bottom wall-fired bituminous coal unit. For the OTC NBP, this unit has been using a NO_x Concentration CEM combined with a Stack Flow monitoring system to determine NO_x mass. Assuming heat input is required for State allowance allocations, the facility will be installing a wet basis O_2 monitor to determine heat input and will use the appropriate Part 75 default moisture value for coal. The attached comparison shows the changes made for each Record Type.

Example for Case 3: EDR Changes for a Coal Unit using NOXC and FLOW

RT 100	**EDR Version Changed from V2.0 to V2.1. Reporting Quarter and Year Changed.**
OTC	10030000022001V2.0
SUBH	10030000**22002V2.1**
RT 102	**No Changes**
OTC/SUBH	102CASE 3 COGENERATION 4911PA095 404133 752842
RT 504	**Fields Added in v2.1**
OTC	5043 DB 1160.019950828
SUBH	5043 DB 1160.019950828 **120 0 235 235**
RT 505	**New record reported for Subpart H Participation beginning on 4/1/2001**
OTC	5053 NBP B Q 19980701PA PA
SUBH	**5053 OTC-SUBH B Q 20020401 PA**
RT 506	**New RT in v2.1. Required for all units.**
SUBH	**5063 3 3 3 1995 300000300000**
RT 510	**Diluent System added. DAHS version updated.**
OTC	5103 D11F10UFLOWP DAHS PERFECT DATA, INC. CNT-220 19980701 5103 F11F10UFLOWP FLOWU VOLUMAIR DP-200 0550MKT 19980701 5103 D11N10UNOXCP DAHS PERFECT DATA, INC. CNT-220 19980701 5103 N11N10UNOXCP NOX DINMEASURERIGHT 99-77 872J-222 19980701
SUBH	5103 D11F10**C**FLOWP DAHS PERFECT DATA, INC. **CNT-221** 19980701 5103 F11F10UFLOWP FLOWU VOLUMAIR DP-200 0550MKT 19980701 5103 D11N10**C**NOXCP DAHS PERFECT DATA, INC. **CNT-221** 19980701 5103 N11N10UNOXCP NOX DINMEASURERIGHT 99-77 872J-222 19980701 **5103 D11O10AO2 P DAHS PERFECT DATA, INC. CNT-221 20020401** **5103 O11O10AO2 P O2D DINOXYGEN UNLTD MONITOR O 555-603 20020401**
RT 520	**New formula added to support new heat input determination**
OTC	5203 UN10NOXMN-1 M_NOx_h = 1.194*10**-7*S#(N11-N10)*S#(F11-F10)*t_h
SUBH	5203 UN10NOXMN-1 M_NOx_h = 1.194*10**-7*S#(N11-N10)*S#(F11-F10)*t_h **5203 AO11HI F-18 HI=S#(F11-F10) * [(100- H2O_default))/(100*9780)] [(20.9- S#(O11-O10))/20.9]**

Example for Case 3: EDR Changes for a Coal Unit using NOXC and FLOW

RT 530	**RT 530 for diluent added to support addition of diluent system. Fields added in RT 530 for flow.**
OTC	5303 FLOWHF 16019000.000 325.000 450.000KSCFM 99010100 5303 NOX HTR 240.000 0.000 300.000 300.000PPM 99010100
SUBH	5303 FLOWHF 16019000.000 325.000 450.000KSCFM 99010100 **19500000 27000000** 5303 NOX HTR 240.000 0.000 300.000 300.000PPM 99010100 **5303 O2 HNA 20.00 25.000% 02040100**
RT 531	**Deactivated Flow and NOXC records. Added H_2O default value for bituminous coal, minimum $\%O_2$ for missing data purposes and diluent cap value for O_2.**
OTC	5313 FLOW 16019000.000SCFH MD NFSAMPF 1998070100 5313 NOXC 240.000PPM MD NFSAMPC 1998070100
SUBH	5313 FLOW 16019000.000SCFH MD NFSAMPF 19980701002002033123 **5313 H2O 6.000%H2O PM BT AMC 2002040100** 5313 NOXC 240.000PPM MD NFSUMPC 19980701002002033123 **5313 O2M 5.000%O2 MD NFSADATA2002040100** **5313 O2X 14.000%O2 DC NFSADCPD2002040100**
RT 535	**Designated Normal load field should be left blank in EDR v2.1. Also, unless you qualify on the basis of being a peaking unit or a bypass stack, leave the Single Load designation field blank.**
OTC	5353 MW 125**HS**
SUBH	5353 MW 125
RT 536	**New RT in EDR v2.1. Required for all units/stacks with any CEM system.**
SUBH	**5363 125 40H,MMH20020101**
RT 585	**Added for methodologies for Heat Input and Moisture. Also note code changes.**
OTC	5853 NOXMCEM NFSPLOAD 19980701
SUBH	**5853 H2O MDF C PNA 20020401** **5853 HI CEM NFSPSPTS 20020401** 5853 NOXMCEM NFSP**SPTS** 19980701
RT 586	**No Changes**
OTC/SUBH	5863 NOX LNB PO
RT 587	**No Changes**
OTC/SUBH	5873 C 19950828 P

Case 4

NO_x Concentration CEMS and Stack Flow Monitor for NO_x Mass (Stack Flow and Diluent Monitor for Heat Input)

Overview

No basic monitoring methodology change is required for either the NO_x emission rate methodology or the heat input methodology for Case 4. However, if you elect to switch to the NO_x emission rate times heat input rate methodology for NO_x mass, and to discontinue using NO_x mas concentration times flow rate (or to use it as a secondary NO_x mass methodology), see Case 3, above, for further guidance.

One key step is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/discontinued record types, changed codes) to convert your monitoring plan to EDR v2.1 format -- see ***Appendix A, Changes for All Units***, and consult the ***EDR v2.1 Instructions*** for further information on the following record types:

- RTs 503, 504, 505, 506, 508, 510, 520, 530, 531, 535, 536, 540, 555, 556, 585 and 587.

Note! ***If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.***

SECTION 3: OIL- AND GAS-FIRED UNITS

Use Table 3-1 to determine the Case number of your OTC monitoring scenario. Then go to the detailed discussion of that Case number in this section to determine the changes you need to make.

Monitoring Methodology Changes

The OTC Monitoring Guidance allowed a number of monitoring methodologies for oil and gas units that are not permitted under Part 75. However, similar methods are provided for oil and gas units that qualify as Low Mass Emissions units. If you meet the requirements of Section 75.19 and intend to use the LME provisions, see Section 4 for guidance on converting your monitoring plan to reflect LME monitoring. If you do not qualify for the LME provisions, you may need significant changes to convert your OTC monitoring to Part 75 requirements. Table 3-1 summarizes the monitoring methodology changes that may be required for your oil or gas-fired OTC unit to comply with Part 75, Subpart H monitoring and monitoring plan reporting requirements. This section then presents the changes in a series of seven cases so that you can review the changes based on your specific monitoring configurations.

If you currently use a stack moisture default value in any of your emission calculations, note that Subpart H does not allow use of default H_2O values for oil and gas units. You will need to measure stack moisture (or calculate it from wet and dry O_2 readings) on an hourly basis.

You should note that each case is reported at the unit level. If you defined common stacks or multiple stacks for use with your current OTC monitoring, those designations should most likely remain in the Subpart H monitoring scenario. (This may not be true for unmonitored bypass stacks -- see additional note on bypass stacks at the end of ***Appendix A***.) Also, in each case you will find a list of general EDR Record Type (RT) changes that will have to occur as you convert to Part 75 monitoring. Use the list to identify the general RT changes that apply and consult the detailed identification of the changes in ***Appendix A, Changes for All Units***.

Section 3: Oil/Gas-fired Units

Table 3-1: Summary Comparison of NO_x and Heat Input Monitoring Methodologies in the OTC and Federal NO_x Budget Programs for Non LME Oil and Gas Fired Units

Unit Type	Current OTC Monitoring Method		Change Required for non-LME Subpart H Monitoring?	Case #
	NO_x	Heat Input		
Gas or Oil	NO_x Emission Rate CEMS	Stack Flow Monitor and Diluent (O_2/CO_2) CEM	No changes needed to either basic monitoring method.	5
		Appendix D, Hourly Fuel Flow		
		Alternative Heat Input	Yes. Use Appendix D fuel flow monitoring or a stack flow monitor and diluent CEM to determine heat input. (Or, for an emergency fuel, see Part 75, Appendix D, Section 2.1.4.3 and Policy Manual Question 25.10.)	6
		Maximum Heat Input		
	NO_x Concentration CEMS with Stack Flow Monitor	None (only NJ required heat input reporting for OTC)	Yes. Use Appendix D fuel flow monitoring or a stack flow monitor and diluent CEM to determine heat input.	7
		Appendix D Hourly Fuel Flow or Stack Flow Monitor and Diluent (O_2/CO_2) CEM	No changes needed to either basic monitoring method	8
	Appendix E Correlation Curves	Appendix D, Hourly Fuel Flow	Possibly. If non-peaking unit, NO_x emission rate CEMS required. If peaking unit, no changes needed to NO_x methodology. No changes required for Heat Input methodology.	9
	Unit Defaults or Generic Defaults	Appendix D, Hourly Fuel Flow	Yes for NO_x. Install NO_x emission rate CEMS or, if peaking, use Appendix E correlation. No changes required to Heat Input methodology.	10
		Alternative Heat Input Method	Yes. Install NO_x emission rate CEMS or, if peaking, Appendix E correlation. Use Appendix D fuel flow monitoring (or a stack flow monitor and diluent CEM) to determine heat input. (Or, for an emergency fuel, see Part 75, Appendix D, Section 2.1.4.3 and Policy Manual Question 25.10.)	11
		Maximum Heat Input		
		Long Term Fuel Flow		

Case 5

NO_x Emission Rate CEMS with Heat Input Monitoring (Stack Flow and Diluent Monitor or Appendix D Fuel Flow Monitoring)

Overview

No basic monitoring methodology change is required for either the NO_x emission rate methodology or the heat input methodology for Case 5. One key step is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

If you are using an OTC default value for stack moisture, see Case 6 below for the applicable monitoring plan changes.

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/discontinued record types, changed codes) to convert your monitoring plan to EDR v2.1 format -- see ***Appendix A, Changes for All Units***, and consult the ***EDR v2.1 Instructions*** for further information on the following record types:

- RTs 503, 504, 505, 506, 508, 510, 520, 530, 531, 535, 536, 540, 555, 556, 585 and 587.

Note! ***If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.***

Case 6

NO_x Emission Rate CEMS with Either Alternative Heat Input or Maximum Heat Input

Methodology Changes

You do not have to change your basic NO_x emission rate methodology. However, you are not allowed to use the OTC Alternative Heat Input and Maximum Heat Input options under Part 75, Subpart H. You must use fuel flow metering in accordance with Part 75, Appendix D or install a stack flow monitor and use it in conjunction with the existing diluent monitor to determine heat input. (If you are using maximum heat input rate only for an emergency fuel, see the ***Acid Rain Program Policy Manual***, Question 25.10 and RT 587 changes described in ***Appendix A*** of this document.) If moisture correction is needed, you may either calculate hourly moisture from wet and dry O_2 readings or measure moisture directly using a moisture sensor.

EDR Monitoring Plan Changes

You will have to add some record types and you will have to deactivate and delete others. One key step you must take is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your Unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

Note! If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.

The following sections describe the other specific changes you will have to make to a number of monitoring plan record types to reflect the monitoring changes you are making to convert to Part 75, Subpart H monitoring.

Appendix D

If you elect to use Appendix D fuel flow metering to determine heat input, make the following changes:

RT 510

Add (1): A new fuel flow system for each fuel burned (oil and/ or gas). The fuel flow system should be comprised of (at a minimum) one fuel flow monitor and the DAHS software component. The parameter reported for the fuel flow system should be OILM, OILV or GAS,

depending on the fuel being measured and the basis for measurement (OILM is mass, OILV is volume).

Add (2): If you need an hourly moisture value, an H_2O system comprised of wet and dry O_2 components (or a moisture monitor) and the DAHS software.

Deactivate: The Alternative Heat Input system, if you defined one in EDR v2.0.

RT 520

Add (1): Formulas for heat input rate from each fuel. If you determine net fuel flow by summing or taking the difference between multiple fuel flow meters, add the appropriate FGAS or FOIL formula to calculate the net or total hourly fuel flow rate. If you burn multiple fuels, also add the code D-15A formula to calculate the total hourly heat input rate from combined fuels. Please see the appropriate reference tables in the ***EDR v2.1 Instructions*** to determine the correct formula for your monitoring situation.

Add (2): A NO_x mass formula (code F-24) which references the NO_x emission rate formula and the newly defined heat input rate formula.

Add (3): An H_2O formula if you are using wet and dry O_2 monitors to determine stack moisture.

Deactivate: The NO_x mass formula that references the ALTHI or MHHI value.

RT 531

Add (1): A record for the appropriate diluent cap value if you intend to use those provisions (see formulas in Part 75, Appendix F, Sections 4 and 5).

Add (2): If you have a moisture system, a record for the minimum or maximum $\%H_2O$ for missing data purposes (see § 75.37(b)).

Deactivate (1): The record for parameter ALTHI or HI.

Deactivate (2): The record(s) for NO_x MER.

Deactivate (3): The record for parameter H2O that defined the default moisture value allowed under OTC, if you defined one.

RT 540

Add: For each fuel flowmeter system, report RT 540 information. Do not report this record to report data on individual components. Report one RT 540 for each GAS, OILV or OILM system in RT 510, except when a system is made up of multiple fuel flowmeters using different methods of calibration. In this situation, report multiple RTs 540 for the system indicating the calibration method for each flowmeter (col. 38) in

the subsequent records (all information in other fields of the multiple RTs 540 will be identical).

RT 585

Add (1): Record(s) for parameter Heat Input (code HI in col. 10), Methodology Gas Fuel Flow or Oil Fuel Flow (codes GFF or OFF, respectively, in col. 14), and for the appropriate fuel type (col. 24).

Add (2): A record for parameter H2O if you use stack moisture in any of your calculations.

Deactivate: The record for parameter HI (for either ALTHI or MHHI methodology).

Stack Flow Monitoring

If you elect to use stack flow monitoring to determine heat input, make the following changes:

RT 510

Add (1): Define the new flow system (comprised of the flow monitor and the DAHS software component).

Add (2): If you need to measure moisture, an H_2O system comprised of wet and dry O_2 components (or a moisture monitor) and the DAHS software.

Deactivate: The Alternative Heat Input system if you defined one in EDR v2.0.

RT 520

Add (1): A new heat input formula which references the flow component in the flow system and the diluent component in the NO_x system. Use Table 19: Heat Input Formula Reference Table in the ***EDR v2.1 Instructions*** to determine the correct formula for your monitoring situation -- it depends on diluent monitor type (CO_2 or O_2) and whether you sample on a wet or dry basis.

Add (2): A NO_x mass formula (code F-24) which references the NO_x emission rate formula and the newly defined heat input formula.

Add (3): An H_2O formula if you are using wet and dry O_2 monitors to determine stack moisture.

Deactivate: The NO_x mass formula that references the ALTHI or MHHI value.

RT 530

Add: A span record for stack flow.

RT 531

Add (1): If you have a moisture system, a record for the minimum or maximum $\%H_2O$ for missing data purposes (see § 75.37(b)).

Add (2): A record for the minimum potential $\%O_2$ for missing data purposes, if using an O_2 diluent monitor.

Add (3): A record for the appropriate diluent cap value if you intend to use those provisions (see formulas in Part 75, Appendix F, Sections 4 and 5).

Deactivate (1): The record for ALTHI or HI values.

Deactivate (2): The record(s) for NO_x MER values.

Deactivate (3): The record for parameter H2O that defined the default moisture value allowed under OTC, if you defined one.

RT 585

Add (1): A methodology record for parameter Heat Input (code HI in col. 10), Methodology Continuous Emissions Monitoring (code CEM in col. 14), and fuel type non fuel-specific (code NFS in col. 24).

Add (2): A record for parameter H2O if you use stack moisture in any of your calculations.

Deactivate: The record for parameter HI (for either ALTHI or MHHI methodology).

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/discontinued record types, changed codes) to convert your monitoring plan to EDR v2.1 format -- see ***Appendix A, Changes for All Units***, and consult the ***EDR v2.1 Instructions*** for further information on the following record types:

- RTs 503, 504, 505, 506, 508, 510, 520, 530, 531, 535, 536, 540, 555, 556, 585 and 587.

Case 6 Example Unit

Example Unit 6 is a Combined Cycle Oil-Fired Unit. For the OTC NBP, this unit has been using a NO_x emission rate CEM combined with the Maximum Hourly Heat Input (MHHI) rate to determine NO_x mass. Since the default methodology (MHHI) is not allowed for this unit under Subpart H, the facility will be installing a new oil fuel flow meter to determine heat input. The attached comparison shows the changes made for each record type.

Example for Case 6: EDR Changes for an Oil Unit using MHHI

RT 100	**EDR Version Changed from V2.0 to V2.1. Reporting Year and Quarter Changed.**
OTC	10060000022001V2.0
SUBH	100600000**22002V2.1**
RT 102	**No Changes**
OTC/SUBH	102CASE 6 COGENERATION 4911PA009 404920 761025
RT 504	**Fields Added in EDR v2.1**
OTC	5046 CC 1205.019930412
SUBH	5046 CC 1205.019930412 **150 16 258**
RT 505	**New record reported for Subpart H Participation beginning on 5/1/2002**
OTC	5056 NBP B Q 1998070125PA123108PA
SUBH	**5056 OTC-SUBH B OS20020501 PA**
RT 506	**New RT in EDR v2.1**
SUBH	**5066 6 6 6 1993 600000600000**
RT 510	**Oil System Added. DAHS version changed.**
OTC	5106 DAS111UNOX P DAHS PERFECT DATA, INC. GOOD DAHS V33 19980701 5106 NOX111UNOX P NOXHIS MEASURERIGHT N-7000 0480095R 19980701 5106 O2W111UNOX P O2W IS MEASURERIGHT O-8000 0480167 19980701
SUBH	5106 DAS111**C**NOX P DAHS PERFECT DATA, INC. GOOD DAHS **V2200** 19980701 5106 NOX111UNOX P NOXHIS MEASURERIGHT N-7000 0480095R 19980701 5106 O2W111UNOX P O2W IS MEASURERIGHT O-8000 0480167 19980701 **5106 DAS211AOILMP DAHS PERFECT DATA, INC. GOOD DAHS V2200 20020501** **5106 OFM211AOILMP OFFMORFOIL FLOWING FL0008 FLO000812 20020501**

Example for Case 6: EDR Changes for an Oil Unit using MHHI

RT 520	**Old NO_x mass formula deactivated, new formulas added for NO_x mass and heat input determination. Code for FW formula updated.**
OTC	5206 U001NOX 19-2 E_H=(1.194*10**-7)*S#(NOX-111)*F#(003)(20.9/(20.9(1-B_WA)-S#(O2W-111))) 5206 U002NOXMF-10AM_NOX_H=F#(001)*Max_HI*T_1 5206 U003FW F-7C F_W=1*10**6((5.57*H)+(1.53*C)+(0.57*S)+(0.14*N)-(0.46*02)+(0.21*WAT))/GCV
SUBH	5206 U001NOX 19-2 E_H=(1.194*10**-7)*S#(NOX-111)*F#(003)(20.9/(20.9(1-B_WA)-S#(O2W-111))) 5206 **D**002NOXMF-10AM_NOX_H=F#(001)*Max_HI*T_1 5206 C003FW **19-14**F_W=1*10**6((5.57*H)+(1.53*C)+(0.57*S)+(0.14*N)-(0.46*02)+(0.21*WAT))/GCV **5206 A011HI D-8 HI rate-oil= S#(OFM-211) * GCVoil/ 10**6** **5206 A012NOXMF-24 NOXM= F#(001) * F#(011) * op_time**
RT 530	**No changes**
OTC	5306 NOX HHD 100.000 0.183 125.000 150.000PPM 98070100 5306 O2 H 21.000 25.000% 98070100
SUBH	5306 NOX HHD 100.000 0.183 125.000 150.000PPM 98070100 5306 O2 H 21.000 25.000% 98070100
RT 531	**Deactivated previous defaults. Added record to define diluent cap value.**
OTC	5316 HI 1205.000MMBTU PM NFSANPC 1998070100 5316 NOX 0.183LBMMBTUMD NFSAMPC 1998070100
SUBH	5316 HI 1205.000MMBTU PM NFSANPC 1998070100**2001123123** 5316 NOX 0.183LBMMBTUMD NFSAMPC 1998070100**2001123123** **5316 O2X 19.000%O2 DC NFSADCPD2002050100**
RT 535	**Designated Normal load field should be left blank for OTC-SUBH Units.**
OTC	5356 MW 101**H**
SUBH	5356 MW 101
RT 536	**New RT in v2.1**
SUBH	**5366 101 23H,LHL20020101**

Example for Case 6: EDR Changes for an Oil Unit using MHHI

RT 540	**Added for Fuel Flow System**
SUBH	**5406 211OILMOIL 71263.0LBHR UMXAPI A**
RT 585	**Discontinued for MHHI methodology, Added for Appendix D Fuel Flow. Also note code changes.**
OTC	5856 HI MHHI NFSPNA 19980701 5856 NOXRCEM NFSPLOAD 19980701
SUBH	5856 HI MHHI NFSPNA 1998070**120011231** **5856 HI OFF OILPSPTS 20020501** 5856 NOXRCEM NFSP**SPTS** 19980701
RT 587	**No Changes**
OTC/SUBH	5876 OIL19980701 P

Case 7

NO_x Concentration CEMS and Stack Flow Monitor, No Heat Input Monitoring

Methodology Changes

You do not have to change your basic NO_x emission rate methodology. However to determine heat input you must use fuel flow metering in accordance with Part 75, Appendix D or install a diluent monitor and use it in conjunction with the existing stack flow monitor. If moisture correction is needed, you may either calculate hourly moisture from wet and dry O_2 readings or measure moisture directly using a moisture sensor.

EDR Monitoring Plan Changes

You will have to add some record types and you will have to deactivate and delete others. One key step you must take is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

Note! If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.

The following sections describe the other specific changes you will have to make to a number of monitoring plan record types to reflect the monitoring changes you are making to convert to Part 75, Subpart H monitoring.

Appendix D

If you elect to use Appendix D fuel flow monitoring to determine heat input, make the following changes:

RT 510

Add (1): A new fuel flow system for each fuel burned (oil and/or gas). The fuel flow system should be comprised of (at a minimum) one fuel flow meter and the DAHS software component. The parameter reported for the fuel flow system should be OILM, OILV or GAS, depending on the fuel being measured and the basis for measurement (OILM is mass, OILV is volume).

Add (2): If you need to an hourly moisture value, an H_2O system comprised of wet and dry O_2 components (or a moisture monitor) and the DAHS software.

RT 520

Add (1): Formulas for heat input rate from each fuel. If you determine net fuel flow by summing or taking the difference between multiple fuel flow meters, add the appropriate FGAS or FOIL formula to calculate the net or total hourly fuel flow rate. If you burn multiple fuels, also add the code D-15A formula to calculate the total hourly heat input rate from combined fuels. Please see the appropriate reference tables in the ***EDR v2.1 Instructions*** to determine the correct formula for your monitoring situation.

Add (2): An H_2O formula if you are using wet and dry O_2 monitors to determine stack moisture.

RT 531

Deactivate: Records for parameter NOXC, FLOW or H2O.

RT 535

Remove: If you previously reported an "S" (col. 19) to denote state approval of single load flow RATA testing, you should remove this value from RT 535. If you do not qualify for single load RATA testing based on being either a bypass stack or a peaking unit, this field should be left blank. Also leave this field blank if, in a particular year, you qualify for single load RATA under Part 75 because the unit has operated at a single load level for $\geq$85% of the time since the last annual flow RATA (use RT 695 to claim the multi load flow testing exemption for that year).

RT 540

Add: This record for each fuel flowmeter system. Do not report this record to report data on individual components. Report one RT 540 for each GAS, OILV or OILM system in RT 510, except when a system is made up of multiple fuel flowmeters using different methods of calibration. In this situation, report multiple RTs 540 for the system indicating the calibration method for each flowmeter (col. 38) in the subsequent records (all information in other fields of the multiple RTs 540 will be identical).

RT 585

Add (1): Methodology record(s) for parameter Heat Input (code HI in col. 10), Methodology Gas Fuel Flow or Oil Fuel Flow (codes GFF or OFF, respectively, in col. 14), and for the appropriate fuel type (col. 24).

Add (2): Methodology record for H_2O, if needed in your NO_x mass calculation.

Diluent Gas Monitoring

If you elect to use diluent gas monitoring to determine heat input, make the following changes (if you also plan to define a NO_x emission rate system, see Case 3):

RT 510

Add (1): The new diluent system (comprised of the O_2 or CO_2 monitor and the DAHS software component).

Add (2): If moisture correction is required, an H_2O system comprised of wet and dry O_2 components (or a moisture sensor) and the DAHS software.

RT 520

Add (1): A new heat input formula which references the diluent component in the diluent system and the flow component in the flow system. Use Table 19: Heat Input Formula Reference Table in the ***EDR v2.1 Instructions*** to determine the correct formula for your monitoring situation -- it depends on diluent monitor type (CO_2 or O_2) and whether you sample on a wet or dry basis.

Add (2): An H_2O formula if you are using wet and dry O_2 monitors to determine stack moisture.

RT 530

Add: A span record for the O_2 or CO_2 monitor.

RT 531

Add (1): A record for minimum or maximum $\%H_2O$ for missing data purposes if you have defined an H_2O system.

Add (2): A record for the minimum potential $\%O_2$ for missing data purposes, if using an O_2 diluent monitor.

Add (3): A record for the appropriate diluent cap value if you intend to use those provisions (see formulas in Part 75, Appendix F, Sections 4 and 5).

Deactivate: Records for parameter NOXC, FLOW or H2O.

RT 585

Add (1): A record for parameter Heat Input (code HI in col. 10), Methodology Continuous Emissions Monitoring (code CEM in col. 14), and fuel type non fuel-specific (code NFS in col. 24).

Add (2): A record for parameter H2O if moisture correction is required.

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/discontinued record types, changed codes) to convert your monitoring plan to EDR v2.1 format -- see ***Appendix A, Changes for All Units***, and consult the ***EDR v2.1 Instructions*** for further information on the following record types:

- RTs 503, 504, 505, 506, 508, 510, 520, 530, 531, 535, 536, 540, 555, 556, 585 and 587.

Case 7 Example Unit

Example Unit 7 is a Combined Cycle Gas Fired Unit. For the OTC NBP, this unit has been using a NO_x concentration and stack flow to determine NO_x mass. The example assumes the State SIP requires this Unit to monitor heat input, so the facility will be installing gas fuel flow

monitors to determine heat input. The attached comparison shows the changes made for each record type.

Example for Case 7: EDR Changes for an Oil and Gas Unit using NOXC and FLOW

RT 100	**EDR Version Changed from V2.0 to V2.1. Reporting Quarter and Year Changed.**
OTC	10070000022001V2.0
SUBH	100700000**22002V2.1**
RT 102	**No Changes**
OTC/SUBH	102CASE 7 COGENERATION 4911PA095 404133 752842
RT 504	**Fields Added in v2.1**
OTC	5047 CC 1160.019950828
SUBH	5047 CC 1160.019950828 **150 28 234 236**
RT 505	**New record reported for Subpart H Participation beginning on 4/1/2002**
OTC	5057 NBP B Q 19980701PA123108PA
SUBH	**5057 OTC-SUBH B Q 20020401 PA**
RT 506	**New RT in EDR v2.1**
SUBH	**5067 7 7 7 1995 700000700000**
RT 510	**Fuel Flow System Added. DAHS version changed.**
OTC	5107 D01F10UFLOWP DAHS PERFECT DATA, INC. GOOD DAHS V33 2185 19980701 5107 F01F10UFLOWP FLOWDP MEASURERIGHT FL-789 0550 19980701 5107 D01N10UNOXCP DAHS PERFECT DATA, INC. GOOD DAHS V33 2185 19980701 5107 N01N10UNOXCP NOX DINMEASURERIGHT N-7000 42D49872-284 19980701
SUBH	5107 D01F10**C**FLOWP DAHS PERFECT DATA, INC. GOOD DAHS **V2200**2185 19980701 5107 F01F10UFLOWP FLOWDP MEASURERIGHT FL-789 0550 19980701 **5107 D01G10AGAS P DAHS PERFECT DATA, INC. GOOD DAHS V22002185 20020401** **5107 GF1G10AGAS P GFFMORFGAS FLOWING FAST GFZOOM GF0000001 20020401** **5107 GF2G10AGAS P GFFMORFGAS FLOWING FAST GFZOOM GF0000002 20020401** 5107 D01N10**C**NOXCP DAHS PERFECT DATA, INC. GOOD DAHS **V2200**2185 19980701 5107 N01N10UNOXCP NOX DINMEASURERIGHT N-7000 42D49872-284 19980701

Example for Case 7: EDR Changes for an Oil and Gas Unit using NOXC and FLOW

RT 520	**New formulas added for new heat input determination**
OTC	5207 UN10NOXMN-1 M_NOx_h = 1.194*10**-7*S#(N10-N01)*S#(F10-F01)*t_h
SUBH	**5207 AGFZFGASN-GASNet gas flow= S#(GF1-GZ1) + F#(GF2-GZ1)** **5207 AH10HI D-6 HI rate-gas= F#(GFZ) * GCV gas/ 10**6** 5207 UN10NOXMN-1 M_NOx_h = 1.194*10**-7*S#(N10-N01)*S#(F10-F01)*t_h
RT 530	**New fields added in Flow RT 530.**
OTC	5307 FLOWHF 16019000.000 325.000 450.000KSCFM 98070100 5307 NOX HTR 105.000 0.000 140.000 150.000PPM 98070100
SUBH	5307 FLOWHF 16019000.000 325.000 450.000KSCFM 98070100 **19500000 27000000** 5307 NOX HTR 105.000 0.000 140.000 150.000PPM 98070100
RT 531	**Deactivated previous default values.**
OTC	5317 FLOW 16019000.000SCFH MD NFSAMPF 1998070100 5317 NOXC 67.000PPM MD NFSCMEC 1998070100 5317 NOXC 105.000PPM MD NFSUMPC 1998070100
SUBH	5317 FLOW 16019000.000SCFH MD NFSAMPF 1998070100**2002033123** 5317 NOXC 67.000PPM MD NFSCMEC 1998070100**2002033123** 5317 NOXC 105.000PPM MD NFSUMPC 1998070100**2002033123**
RT 535	**Designated Normal load field should be left blank for OTC-SUBH Units. State Approved Single Load Flow Rata qualification indicator no longer reported here.**
OTC	5357 MW 125**HS**
SUBH	5357 MW 125
RT 536	**New RT in v2.1**
SUBH	**5367 125 56M,HH 20020101**
RT 540	**Added for Fuel Flow System**
SUBH	**5407 G10GAS PNG 15800.0HSCF UMXASME A**
RT 585	**Added for Appendix D Fuel Flow. Also note code changes.**
OTC	5857 NOXMCEM NFSPLOAD 19980701
SUBH	**5857 HI GFF PNGPSPTS 20020401** 5857 NOXMCEM NFSP**SPTS** 19980701

Example for Case 7: EDR Changes for an Oil and Gas Unit using NOXC and FLOW

RT 586	No Changes
OTC/SUBH	5867 NOX NH3 PO
RT 587	**No Changes**
OTC/SUBH	5877 PNG19980701 P

Case 8

NO_x Concentration CEMS with Heat Input Monitoring (Stack Flow and Diluent Monitor or Appendix D Fuel Flow Monitoring)

Overview

No basic monitoring methodology change is required for either the NO_x emission rate methodology or the heat input methodology for Case 8. One key step is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/discontinued record types, changed codes) to convert your monitoring plan to EDR v2.1 format -- see ***Appendix A, Changes for All Units***, and consult the ***EDR v2.1 Instructions*** for further information on the following record types:

- RTs 503, 504, 505, 506, 508, 510, 520, 530, 531, 535, 536, 540, 555, 556, 585 and 587.

Note! ***If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.***

Case 9

Appendix E Correlation for NO_x Emission Rate and Appendix D Fuel Flow Metering for Heat Input

Methodology Changes

You do not have to change your Heat Input monitoring methodology. However, if your unit does not qualify as a peaking unit, you must install a NO_x emission rate CEM system. (Unless you qualify as an LME unit -- see Part 4 of this document.) Unlike the OTC program which allows Appendix E for any oil or gas-fired unit with a maximum heat input capacity less than 250 mmBtu/hr or any size if peaking, Part 75 restricts use of the Appendix E NO_x methodology to peaking units.

EDR Monitoring Plan Changes

You will have to add some record types and you will have to deactivate and delete others. One key step you must take is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your Unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

Note! If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.

If the unit qualifies as peaking, consult ***Appendix A, Changes for All Units*** for the record type changes required for conversion to EDR v2.1. For a non-peaking unit, the following sections describe the other specific changes you will have to make to a number of monitoring plan record types to reflect the monitoring changes you are making to convert to Part 75, Subpart H monitoring.

NO_x Emission Rate CEM (Non-Peaking Unit)

If you must use a NO_x emission rate CEM system, make the following changes.

RT 510

Add (1): A new NO_x emission rate system comprised of the NO_x concentration monitor, diluent monitor and the DAHS software component. The parameter reported for the system should be NOX. Make certain to use a dual range monitor if required. If you elect to use

the default high range provisions of Part 75, use component type NOXL for your single scale NO_x monitor.

Add (2): If moisture correction is required, an H_2O system comprised of wet and dry O_2 components (or a moisture sensor) and the DAHS software.

Deactivate: The Appendix E NO_x system.

RT 520

Add (1): An H_2O formula, if you defined an H_2O system with wet and dry O_2 components.

Add (2): A new NO_x emission rate formula which references the new NO_x rate CEM components. Use Table 15: Heat Input Formula Reference Table in the ***EDR v2.1 Instructions*** to determine the correct formula for your monitoring situation -- it depends on diluent monitor type (CO_2 or O_2) and whether you sample on a wet or dry basis.

Add (3): A NO_x mass formula (code F-24) which references the newly defined NO_x emission rate formula and the heat input formula.

Deactivate: The NO_x mass formula that references the Appendix E system.

RT 530

Add: A span record for NO_x concentration and O_2 or CO_2. If the NO_x monitor is dual range or you are using the default high range provisions, be certain to add both high and low scale NOX span records.

RT 531

Add (1): If you intend to use the diluent cap provisions, a record to define the appropriate diluent cap value for this unit (see ***EDR v2.1 Instructions*** for RT 531).

Add (2): If you have a moisture system, define the minimum or maximum $\%H_2O$ for missing data purposes (see § 75.37(b)).

RT 535

Add: (If not already present) to report load information, as required for any CEMS methodology.

RT 560

Remove: It is not necessary to include previously reported Appendix E correlation curve segment information after the transition quarter. However, if this curve was used for any part of a reporting quarter, this information should remain in RT 560.

RT 585

Add (1): A record for parameter NO_x emission rate (code NOXR in col. 10), Methodology Continuous Emissions Monitoring (code CEM in col. 14), and fuel type non fuel-specific (code NFS in col. 24).

Add (2): If moisture correction is required, a record for moisture (parameter H2O).

Deactivate: The record for NO_x rate (for the AE methodology).

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/discontinued record types, changed codes) to convert your monitoring plan to EDR v2.1 format -- see ***Appendix A, Changes for All Units***, and consult the ***EDR v2.1 Instructions*** for further information on the following record types:

- RTs 503, 504, 505, 506, 508, 510, 520, 530, 531, 535, 536, 540, 555, 556, 585 and 587.

Case 9 Example Unit

Example Unit 9 is a Dry Bottom wall-fired Oil and Gas Fired Unit. For the OTC NBP, this unit has been using Appendix E NO_x correlation curve with Appendix D fuel flow monitoring to determine NO_x mass. However, since this Unit no longer qualifies to use Appendix E NO_x rate monitoring, the facility will be installing a NO_x rate CEM (NO_x concentration monitor and an O_2 dry monitor). The attached comparison shows the changes made for each record type.

Example for Case 9: EDR Changes for an Oil & Gas Unit using App. E and App. D

RT 100	**EDR Version Changed from V2.0 to V2.1. Reporting Quarter and Year Changed.**
OTC	10090000022001V2.0
SUBH	100900000**22002V2.1**
RT 102	**No Changes**
OTC/SUBH	102CASE 9 ELECTRIC UTILITY 4911DE001 391039 753245
RT 504	**Fields Added in v2.1**
OTC	5049 DB 225.019620401
SUBH	5049 DB 225.019620401 **130 33 45**
RT 505	**New record reported for Subpart H Participation beginning on 5/1/2002**
OTC	5059 NBP B OS199807017DEL60N037DE
SUBH	**5059 OTC-SUBH B OS20020501 DE**
RT 506	**New record type in EDR v2.1**
SUBH	**5069 9 1 1 1976 900000900000**
RT 510	**Deactivated Appendix E Systems. Added NO_x Rate CEM System. Updated DAHS version.**
OTC	5109 DAS101UOILMP DAHS GREAT DATA SYSTEMS 1X 19980701 5109 OF1101UOILMP OFFMCORMEASURERIGHT XK-4000 TGS02618 19980701 5109 DAS102UGAS P DAHS GREAT DATA SYSTEMS 1X 19980701 5109 GF1102UGAS P GFFMORFGAS FLOWING FAST GFF-100 WS6011598 19980701 5109 DAS103UNOX P DAHS GREAT DATA SYSTEMS 1X 19980701 5109 DAS104UNOX P DAHS GREAT DATA SYSTEMS 1X 19980701
SUBH	5109 DAS101COILMP DAHS GREAT DATA SYSTEMS **2.61X** 19980701 5109 OF1101UOILMP OFFMCORMEASURERIGHT XK-4000 TGS02618 19980701 5109 DAS102CGAS P DAHS GREAT DATA SYSTEMS **2.61X** 19980701 5109 GF1102UGAS P GFFMORFGAS FLOWING FAST GFF-100 WS6011598 19980701 5109 DAS103**D**NOX P DAHS GREAT DATA SYSTEMS 1X 1998070**120010930** 5109 DAS104**D**NOX P DAHS GREAT DATA SYSTEMS 1X 1998070**120010930** **5109 DASN13ANOX P DAHS GREAT DATA SYSTEMS 2.61X 20020501** **5109 N11N13ANOX P NOX DILNOXXY MON NOXXY 777 NOX777-3 20020501** **5109 O22N13ANOX P O2D DILO2 MEASURE MON-1-453 O24378-567 20020501**

Example for Case 9: EDR Changes for an Oil & Gas Unit using App. E and App. D

RT 520	**Marked previous NOXM formulas for deletion. Added new formulas for NOX emission rate and NO_x mass. Updated heat input formula code.**
OTC	5209 U101HI F-19 HI_oil = S#(OF1-101) * GCV_oil / 10 ** 6 5209 U102HI F-20 HI_gas = S#(GF1-102) * GCV_gas / 10 ** 6 5209 U106NOXMF-10AM_NOx(oil) = NOx rate from oil correlation curve * F#(101) * T_oil 5209 U107NOXMF-10AM_NOx(gas) = NOx rate from gas correlation curve * F#(102) * T_gas 5209 U108NOXMN-3 M_NOx(total) = F#(106) + F#(107) 5209 U109HI F-20CHI_combined fuels = ((F#(101) * T_oil) + (F#(102) * T_gas)) / T_unit
SUBH	5209 U101HI F-19 HI_oil = S#(OF1-101) * GCV_oil / 10 ** 6 5209 U102HI F-20 HI_gas = S#(GF1-102) * GCV_gas / 10 ** 6 5209 **D**106NOXMF-10AM_NOx(oil) = NOx rate from oil correlation curve * F#(101) * T_oil 5209 **D**107NOXMF-10AM_NOx(gas) = NOx rate from gas correlation curve * F#(102) * T_gas 5209 **D**108NOXMN-3 M_NOx(total) = F#(106) + F#(107) 5209 C109HI **D-15A**HI_combined fuels = ((F#(101) * T_oil) + (F#(102) * T_gas)) / T_unit **5209 AHIHNOXMF-24 NOXM= F#(NNN) * F#(109) * unit_op_time** **5209 ANNNNOX 19-1 E= 1.194*10**-7 * S#(N11-N13) * 9190 * 20.9/20.9-S#(O22-N13)**
RT 530	**Added span information for NO_x and O_2 monitors**
SUBH	**5309 NOX HHD 320.000 0.528 400.000 400.000PPM 02010100** **5309 O2 H 20.000 25.000 25.000% 02010100**
RT 531	**Added Record to Define Diluent Cap value (for a boiler)**
SUBH	**5319 O2X 14.000%O2 DC NFSADCPD2002050100**
RT 535	**Designated Normal load field should be left blank in EDR v2.1**
OTC	5359 MW 19**H**
SUBH	5359 MW 19
RT 536	**New record type in EDR v2.1. Required for Units using CEM methods.**
SUBH	**5369 19 9H,MH 20020101**
RT 540	**Initial Calibration Method Codes added to EDR v2.1.**
OTC	5409 101OILMOIL 12300.0LBHR UMXMFC-9M-1988 U 5409 102GAS PNG 2400.0HSCF UMXMFC-3M-1989 U
SUBH	5409 101OILMOIL 12300.0LBHR UMX**API** **C** 5409 102GAS PNG 2400.0HSCF UMX**API** **C**

Example for Case 9: EDR Changes for an Oil & Gas Unit using App. E and App. D

RT 560	**Appendix E Correlation Curve Records removed in v2.1**
OTC	5609 19971203 1 0G01103 0.0 100.3 0.270 0.270PNG 5609 19971203 2 1G02103 100.3 138.5 0.270 0.290PNG 5609 19971203 3 2G03103 138.5 197.9 0.290 0.360PNG 5609 19971203 4 3G04103 197.9 227.5 0.360 0.340PNG 5609 19980202 5 0R01104 0.0 102.3 0.350 0.350OIL 5609 19980203 6 1R02104 102.3 153.0 0.350 0.370OIL 5609 19980203 7 2R03104 153.0 200.4 0.370 0.380OIL 5609 19980203 8 3R04104 200.4 220.1 0.380 0.410OIL
RT 585	**Deactivated Appendix E methodology. Added NOXR CEM methodology. Also note code changes.**
OTC	5859 HI GFF PNGPLOAD 19980701 5859 HI OFF OILPLOAD 19980701 5859 NOXRAE OILPNA 19980701 5859 NOXRAE PNGPNA 19980701
SUBH	5859 HI GFF PNGP**SPTS** 19980701 5859 HI OFF OILP**SPTS** 19980701 5859 NOXRAE OILPNA 19980701**20010930** 5859 NOXRAE PNGPNA 19980701**20010930** **5859 NOXRCEM NFSPSPTS 20020501**
RT 586	**No Changes**
OTC/SUBH	5869 NOX LNB P 1995030119950601
RT 587	**No Changes**
OTC/SUBH	5879 OIL19980701 P 5879 PNG19980701 S

Case 10

Unit Specific or Generic NO_x Default Rate and Appendix D Fuel Flow Metering for Heat Input

Methodology Changes

You do not have to change your Heat Input monitoring methodology. However, Part 75 does not allow use of default NO_x rates for non-LME units. If your unit qualifies as peaking, you may use the Appendix E NO_x correlation method. If your unit does not qualify as a peaking unit, you must install a NO_x emission rate CEM system.

EDR Monitoring Plan Changes

You will have to add some record types and you will have to deactivate and delete others. One key step you must take is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

Note! If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.

The following sections describe the other specific changes you will have to make to a number of monitoring plan record types to reflect the monitoring changes you are making to convert to Part 75, Subpart H monitoring.

Appendix E (Peaking Unit)

If you qualify for and elect to use the Appendix E correlation method to determine NO_x emission rate, make the following changes:

RT 507

Add: With the appropriate peaking qualification information.

RT 510

Add: A new Appendix E NO_x system for each correlation curve to be established. If you are testing each fuel separately, define a system for each fuel burned (oil and/or gas). Each Appendix E system should be comprised of the DAHS software component only.

RT 520

Add: A NO_x mass formula (code F-24) which references the NO_x emission rate from Appendix E curve and the total heat input rate formula.

Deactivate: The NO_x mass formula that references the unit specific or generic default.

RT 530 **Add:** Record to define maximum NO_x emission rate for gas and/or oil (parameter GNOX or ONOX). See ***EDR v2.1 Instructions***.

RT 531 **Deactivate:** Unit specific or generic default NO_x rate values.

RT 535 **Add:** (If not already present) to report load information, as required for any CEMS methodology

RT 560 **Add:** For each Appendix E system when testing has been completed.

RT 585 **Add:** A methodology record for parameter NO_x rate (code NOXR in col. 10), Methodology Appendix E (code AE, in col. 14), and for the appropriate fuel type (col. 24).

Deactivate: The previously record for NO_x rate (for either UDEF or GDEF methodology).

NO_x Emission Rate CEM (Non-Peaking Unit)

If you must or elect to use a NO_x emission rate CEM system, make the following changes:

RT 510 **Add (1):** The new NO_x rate system (comprised of the NO_x concentration monitor, the diluent monitor and the DAHS software component). Make certain to use a dual range analyzer if necessary. If you elect to use the default high range provisions of Part 75, use component type NOXL for your single scale NO_x monitor

Add (2): If moisture correction is required, define an H_2O system comprised of wet and dry O_2 components (or a moisture sensor) and the DAHS software.

RT 520 **Add (1):** A new NO_x emission rate formula which references the newly defined NO_x system. Use Table 15: Heat Input Formula Reference Table in the ***EDR v2.1 Instructions*** to determine the correct formula for your monitoring situation -- it depends on diluent monitor type (CO_2 or O_2) and whether you sample on a wet or dry basis.

Add (2): A NO_x mass formula (code F-24) which references the NO_x emission rate formula and the total hourly heat input rate formula.

Add (3): An H_2O formula, if you defined an H_2O system with wet and dry O_2 components.

Deactivate: The NO_x mass formula that references the unit specific or generic NO_x default.

RT 530

Add: A span record for NO_x concentration and the diluent. Make certain to add both low and high scale NO_x records if you have dual ranges or are using the default high scale range provisions.

RT 531

Add (1): If you intend to use the diluent cap provisions, a record to define the appropriate diluent cap value for this unit (see ***EDR v2.1 Instructions*** for RT 531).

Add (2): If you have a moisture system, define the minimum or maximum $\%H_2O$ for missing data purposes (see § 75.37(b)).

Deactivate (1): The record(s) for unit specific or generic default values.

Deactivate (2): The record(s) for maximum fuel flow.

RT 535

Add: (If not already present) to report load information, as required for any CEMS methodology.

RT 585

Add (1): A record for NO_x rate (code NOXR in col. 10), Methodology Continuous Emissions Monitoring (code CEM in col. 14), and fuel type non fuel-specific (code NFS in col. 24).

Add (2): If moisture correction is required, a record for moisture (parameter H2O).

Deactivate: The previously defined RT 585 for heat input (for either UDEF or GDEF methodology).

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/discontinued record types, changed codes) to convert your monitoring plan to EDR v2.1 format -- see ***Appendix A, Changes for All Units***, and consult the ***EDR v2.1 Instructions*** for further information on the following record types:

- RTs 503, 504, 505, 506, 508, 510, 520, 530, 531, 535, 536, 540, 555, 556, 585 and 587.

Case 10 Example Unit

Example Unit 10 is a Diesel fired Combustion Turbine. For the OTC NBP, this unit has been using Unit Specific NO_x rate with Appendix D fuel flow monitoring to determine NO_x mass. However, this Unit no longer qualifies to use the Unit Specific NO_x rate default, but is a peaking unit, which qualifies the unit to use Appendix E. The attached comparison shows the changes made for each record type.

Example for Case 10: EDR Changes for an Oil Unit using Unit Specific Defaults with Appendix D

RT 100	**EDR Version Changed from V2.0 to V2.1. Reporting Quarter and Year Changed.**
OTC	10010101022001V2.0
SUBH	100101010**22002V2.1**
RT 102	**No Changes**
OTC/SUBH	102CASE 10 INDUSTRIAL TURBINE 2834PA091 401246 751808
RT 504	**Fields Added in v2.1**
OTC	50410 CT 366.019890801
SUBH	50410 CT 366.019890801 **456 77 97**
RT 505	**New record reported for Subpart H Participation beginning on 5/1/2002**
OTC	50510 NBP B OS19980701PA25CH121 PA
SUBH	**50510 OTC-SUBH B OS20020501 PA**
RT 506	**New record type in EDR v2.1**
SUBH	**50610 10 10 10 1989 101010101010**
RT 507	**New Peaking Qualification Data for 2002**
OTC	50710 20011998A 4.01999A 5.32000A 7.9 5.7PK
SUBH	**50710 20021999A 5.32000A 7.92001A 7.4 6.9PK3HD**
RT 510	**Added Appendix E System. Updated DAHS version.**
OTC	51010 101100UOILVP OFFMTUROILMEASURE OM-768 8706-12413-1-3B 19980701 51010 102100UOILVP DAHS GREAT DAHS SYSTEMS 1X 19980701
SUBH	51010 101100UOILVP OFFMTUROILMEASURE OM-768 8706-12413-1-3B 19980701 51010 102100COILVP DAHS GREAT DAHS SYSTEMS **222X** 19980701 **51010 102AE1ANOX P DAHS GREAT DAHS SYSTEMS 222X 20010401**

Example for Case 10: EDR Changes for an Oil Unit using Unit Specific Defaults with Appendix D

RT 520	**Marked Unit Specific Default NOXM formula for deletion. Added new formula to reference Appendix E system.**
OTC	52010 U102HI F-19VHIo (mmbtu/hr) = S#(101-100) * (Gross_calorific_value_oil / 10**6) 52010 U110NOXMF-10ANOXM= UDEF NOX * F#(102) * optime
SUBH	52010 U102HI F-19VHIo (mmbtu/hr) = S#(101-100) * (Gross_calorific_value_oil / 10**6) 52010 **D**110NOXMF-10ANOXM= UDEF NOX * F#(102) * optime **52010 AAE1NOXMF-24 NOXM= S#(102-AE1) * F#(102)* Unit_op_time**
RT 531	**Deactivated all previous defaults**
OTC	53110 NOXG 1.200LBMMBTUMD DSLUNBP 1998070100 53110 NOXU 0.305LBMMBTUPM DSLCTEST1998070101 53110 OILV 2424.000GALHR MD DSLADES 1998070100
SUBH	53110 NOXG 1.200LBMMBTUMD DSLUNBP 1998070100**2001093023** 53110 NOXU 0.305LBMMBTUPM DSLCTEST1998070101**2001093023** 53110 OILV 2424.000GALHR MD DSLADES 1998070100**2001093023**
RT 535	**Designated Normal load field should be left blank in EDR v2.1**
OTC	53510 MW 29**H**
SUBH	53510 MW 29
RT 540	**Initial Calibration Method Codes Added to EDR v2.1**
OTC	54010 100OILVDSL 2424.0GALHRUMXISO 8316 A
SUBH	54010 100OILVDSL 2424.0GALHRUMX**ILMM** A
RT 560	**Appendix E Correlation Curve Records Added**
SUBH	**56010 20020214 1 0SG1AE1 0.0 80.0 0.270 0.270DSL** **56010 20010224 2 1SG2AE1 80.0 163.2 0.270 0.254DSL** **56010 20010224 3 2SG3AE1 163.2 244.7 0.254 0.301DSL** **56010 20010224 4 3SG4AE1 244.7 351.2 0.301 0.311DSL**
RT 585	**Added Appendix E methodology. Deactivated NOXR UDEF methodology. Also note code changes.**
OTC	58510 HI OFF DSLPLOAD 19980701 58510 NOXRUDEF DSLPDEF 19980701
SUBH	58510 HI OFF DSLP**SPTS** 19980701 **58510 NOXRAE DSLPNA 20020501** 58510 NOXRUDEF DSLPDEF 1998070**120010930**

Example for Case 10: EDR Changes for an Oil Unit using Unit Specific Defaults with Appendix D

RT 586	**No Changes**
OTC/SUBH	58610 NOX H2O PO
RT 587	**No Changes**
OTC/SUBH	58710 DSL19980701 P

Case 11

Unit Specific or Generic NO_x Default Rate with Alternative or Maximum Heat Input or Long Term Fuel Flow

Methodology Changes

None of these OTC methods are permitted by Part 75 for non-LME units. If your unit qualifies as a peaking unit, you may use Appendix E. If your unit does not qualify as a peaking unit, you must install a NO_x emission rate CEM system. For heat input, you could install a stack flow monitor to use in conjunction with a diluent monitor, but this case assumes that you will elect to install an Appendix D fuel flow monitoring system to determine heat input. (If you are using maximum heat input rate only for an emergency fuel, see the ***Acid Rain Program Policy Manual***, Question 25.10 and RT 587 changes described in ***Appendix A*** of this document.)

EDR Monitoring Plan Changes

You will have to add some record types and you will have to deactivate and delete others. One key step you must take is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

Note! If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.

The following sections describe the other specific changes you will have to make to a number of monitoring plan record types to reflect the monitoring changes you are making to convert to Part 75, Subpart H monitoring.

Appendix E (Peaking Unit)

If you qualify for and elect to use the Appendix E correlation method to determine NO_x emission rate, make the following changes (and the changes listed for Appendix D below):

RT 507

Add: With the appropriate peaking qualification information.

RT 510

Add: A new Appendix E NO_x system for each correlation curve to be established. If you are testing each fuel separately, define a system for each fuel burned (oil and/or gas). Each Appendix E system should be comprised of the DAHS software component only.

RT 520

Add: A NO_x mass formula (code F-24) which references the NO_x emission rate from Appendix E curve and the total heat input rate formula.

Deactivate: The NO_x mass formula that references the unit specific or generic default.

RT 530

Add: Record to define maximum NO_x emission rate for gas and/or oil (parameter GNOX or ONOX). See ***EDR v2.1 Instructions***.

RT 531

Deactivate: Unit specific or generic default NO_x rate values.

RT 535

Add: (If not already present) to report load information, as required for any CEMS methodology

RT 560

Add: For each Appendix E system when testing has been completed.

RT 585

Add: A methodology record for parameter NO_x rate (code NOXR in col. 10), Methodology Appendix E (code AE, in col. 14), and for the appropriate fuel type (col. 24).

Deactivate: The previously record for NO_x rate (for either UDEF or GDEF methodology).

NO_x Emission Rate CEM (Non-Peaking Unit)

If you must or elect to use a NO_x emission rate CEM system, make the following changes (and the changes listed for Appendix D below):

RT 510

Add (1): The new NO_x rate system (comprised of the NO_x concentration monitor, the diluent monitor and the DAHS software component). Make certain to use a dual range analyzer if necessary. If you elect to use the default high range provisions of Part 75, use component type NOXL for your single scale NO_x monitor

Add (2): If moisture correction is required, define an H_2O system comprised of wet and dry O_2 components (or a moisture sensor) and the DAHS software.

RT 520

Add (1): A new NO_x emission rate formula which references the newly defined NO_x system. Use Table 15: Heat Input Formula Reference Table in the ***EDR v2.1 Instructions*** to determine the correct formula for your monitoring situation -- it depends on diluent monitor type (CO_2 or O_2) and whether you sample on a wet or dry basis.

Add (2): An H_2O formula, if you defined an H_2O system with wet and dry O_2 components.

Add (3): A NO_x mass formula (code F-24) which references the NO_x emission rate formula and the total hourly heat input rate formula.

Deactivate: The NO_x mass formula that references the unit specific or generic NO_x default.

RT 530

Add: A span record for NO_x concentration and the diluent. Make certain to add both low and high scale NO_x records if you have dual ranges or are using the default high scale range provisions.

RT 531

Add (1): If you intend to use the diluent cap provisions, a record to define the appropriate diluent cap value for this unit (see ***EDR v2.1 Instructions*** for RT 531).

Add (2): If you have a moisture system, define the minimum or maximum $\%H_2O$ for missing data purposes (see § 75.37(b)).

Deactivate (1): Unit specific or generic default NO_x rate values.

Deactivate (2): Maximum fuel flow records.

RT 535

Add: (If not already present) to report load information, as required for any CEMS methodology.

RT 585

Add (1): A record for NO_x rate (code NOXR in col. 10), Methodology Continuous Emissions Monitoring (code CEM in col. 14), and fuel type non fuel-specific (code NFS in col. 24).

Add (2): If moisture correction is required, a record for moisture (parameter H2O).

Change End Date: In the previously defined RT 585 for heat input (for either UDEF or GDEF methodology) report for one quarter with the appropriate Methodology End Date (col. 42).

Appendix D

If you elect to use Appendix D fuel flow monitoring to determine heat input, make the following changes:

RT 510

Add: A new fuel flow system for each fuel burned (oil and/ or gas). The fuel flow system should be comprised of (at a minimum) one fuel flow monitor and the DAHS software component. The parameter reported for the fuel flow system should be OILM, OILV or GAS, depending on the fuel being measured and the basis for measurement (OILM is mass, OILV is volume).

Deactivate: The Alternative Heat Input System that was defined for OTC monitoring, if any.

RT 520

Add (1): Formulas for heat input rate from each fuel flowmeter system. If you determine net fuel flow by summing or taking the difference between multiple fuel flow meters, add the appropriate FGAS or FOIL formula to calculate the net or total hourly fuel flow rate. If you burn multiple fuels, also add the code D-15A formula to calculate the total hourly heat input rate from combined fuels. Please see the appropriate reference tables in the ***EDR v2.1 Instructions*** to determine the correct formula for your monitoring situation.

Deactivate : The long term fuel flow apportionment formula(s), if any.

RT 531

Deactivate: The records for maximum heat input or maximum fuel flow.

RT 535

Add: This record to support the load-based missing data procedures for Appendix D fuel flow metering.

RT 540

Add: This record for each fuel flowmeter system. Do not report this record to report data on individual components. Report one RT 540 for each GAS, OILV or OILM system in RT 510, except when a system is made up of multiple fuel flowmeters using different methods of calibration. In this situation, report multiple RTs 540 for the system indicating the calibration method for each flowmeter (col. 38) in the subsequent records (all information in other fields of the multiple RTs 540 will be identical).

RT 585

Add: Methodology record(s) for parameter Heat Input (code HI in col. 10), Methodology Gas Fuel Flow or Oil Fuel Flow (codes GFF or OFF, respectively, in col. 14), and for the appropriate fuel type (col. 24).

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/discontinued record types, changed codes) to convert your monitoring plan to EDR v2.1 format -- see ***Appendix A, Changes for All Units***, and consult the ***EDR v2.1 Instructions*** for further information on the following record types:

- RTs 503, 504, 505, 506, 508, 510, 520, 530, 531, 535, 536, 540, 555, 556, 585 and 587.

Case 11 Example Unit

Example Unit 11 is a Diesel fired Combustion Turbine. For the OTC NBP, this unit has been using Unit Specific NO_x rate with long term fuel flow monitoring to determine NO_x mass. However, this Unit no longer qualifies to use either the Unit Specific NO_x rate default or the long term fuel flow methodologies. However, since this unit is a peaking unit, the facility is using Appendix E NO_x monitoring with Appendix D fuel flow monitoring to determine NO_x mass. The attached comparison shows the changes made for each record type.

Example for Case 11: EDR Changes for an Oil Unit using Unit Specific Default with Long Term Fuel Flow

RT 100	**EDR Version Changed from V2.0 to V2.1. Reporting Quarter and Year Changed.**
OTC	10011000022001V2.0
SUBH	100110000**22002V2.1**
RT 102	**No Changes**
OTC/SUBH	102CASE 11 ELECTRIC UTILITY 4911CT009 411733 724739
RT 504	**Fields Added in v2.1**
OTC	50411 CT 378.019690722
SUBH	50411 CT 378.019690722 **240 12 120**
RT 505	**New record reported for Subpart H Participation beginning on 5/1/2002**
OTC	50511 NBP B OS1999050122A-174 CT
SUBH	**50511 OTC-SUBH B OS20020501 CT**
RT 506	**New record type in EDR v2.1**
SUBH	**50611 11 11 11 1976 110000110000**
RT 507	**New Peaking Qualification Data for 2002**
OTC	50711 20011998A 9.11999A 7.82000A 7.1 8.0PK
SUBH	**50711 20021999A 6.62000A 9.22001A 7.8 7.9SK3HD**
RT 510	**Added Appendix D and E systems. Updated DAHS version. Deactivated LTOL system.**
OTC	51011 D11101ULTOLP DAHS PERFECT DATA, INC. PDI-457 19990501
SUBH	51011 D11101**D**LTOLP DAHS PERFECT DATA, INC. PDI-880 19990501**20010930** **51011 D11202ANOX P DAHS PERFECT DATA, INC. PDI-880 20020501** **51011 104204AOILVP OFFMPDPMEASUREOIL MDF-540 904400001 20020501** **51011 D11204AOILVP DAHS PERFECT DATA, INC. PDI-880 20020501**

Example for Case 11: EDR Changes for an Oil Unit using Unit Specific Default with Long Term Fuel Flow

RT 520	**All previous formulas marked for deletion. New formulas added to reference Appendix D and E systems.**
OTC	52011 U101HVOFF-15AS#(D11-101)*(MWh/MWt) 52011 U102HI F-19VF#(101)*(GCVo/1000000) 52011 U103NOXMF-10AHourly NOx mass = (F#(102))*NOx unit specific default emission rate * T_10
SUBH	52011 **D**101HVOFF-15AS#(D11-101)*(MWh/MWt) 52011 **D**102HI F-19VF#(101)*(GCVo/1000000) 52011 **D**103NOXMF-10AHourly NOx mass = (F#(102))*NOx unit specific default emission rate * T_10 **52011 A105HI F-19VHI= S#(104-204)*(GCVo/1000000)** **52011 A201NOXMF-24 NOXM= S#(D11-202) * F#(105) * op_time**
RT 530	**Added record to define NO_x MER for Appendix E**
SUBH	**53011 ONOX 200.000 0.392 02050100**
RT 531	**Deactivated all records.**
OTC	53111 NOXG 1.200LBMMBTUMD DSLANBP 1999050100 53111 NOXU 0.740LBMMBTUPM DSLATEST1999050100 53111 OILV 1800.000GALHR MD DSLADES 1999050100
SUBH	53111 NOXG 1.200LBMMBTUMD DSLANBP 1999050100**2001093023** 53111 NOXU 0.740LBMMBTUPM DSLATEST1999050100**2001109303** 53111 OILV 1800.000GALHR MD DSLADES 1999050100**2001109303**
RT 535	**Added record to support Appendix D Fuel Flow metering**
SUBH	**53511 MW 36**
RT 536	**Added record to support quarterly fuel-flow-to-load analysis for Appendix D Fuel Flow metering**
SUBH	**53611 36 11**
RT 540	**Added record to support Appendix D Fuel Flow metering**
SUBH	**54011 204OILVDSL 9784.0GALHRUMXAPI A**
RT 560	**Added Appendix E Correlation Curve Records**
SUBH	**56011 20020402 1 0001202 0.0 85.0 0.271 0.271DSL** **56011 20020402 1 1002202 85.0 178.3 0.271 0.332DSL** **56011 20020402 1 2003202 178.3 265.8 0.332 0.340DSL** **56011 20020402 1 3004202 265.8 351.7 0.340 0.316DSL**

Example for Case 11: EDR Changes for an Oil Unit using Unit Specific Default with Long Term Fuel Flow

RT 585	Added Appendix D and E methodologies. Deactivated NOXR UDEF and LTOF methodologies.
OTC	58511 HI LTOF DSLPDEF 19990501 58511 NOXRUDEF DSLPDEF 19990501
SUBH	58511 HI LTOF DSLPDEF 19990501**20010930** **58511 HI OFF DSLPSPTS 20010501** **58511 NOXRAE DSLPSPTS 20020501** 58511 NOXRUDEF DSLPDEF 19990501**20010930**
RT 587	**No Changes**
OTC/SUBH	58711 DSL19990501 P

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SECTION 4: OIL- AND GAS-FIRED LOW MASS EMISSIONS (LME) UNITS

See Table 4-1 for a summary of issues to consider if you qualify as a Low Mass Emissions (LME) Unit. Then go to the detailed discussion of Case 12 in this section to determine the changes you need to make.

Monitoring Methodology Changes

For an oil or gas fired unit not affected under the Acid Rain program, a Low Mass Emissions (LME) unit under §75.70 is one with actual and calculated potential annual NO_x emissions $\leq$ 50 tons (or if the unit is reporting only on an ozone season basis, ozone NO_x emissions $\leq$ 25 tons) (see § 75.19 and § 75.74 (c)(10)).

If your unit qualifies as an LME Unit, you are eligible to use unit or fuel specific or generic defaults to determine NO_x rate, and either maximum rated hourly heat input (in mmBtu) or heat input calculated from a long term fuel flow method (including data on volume, specific gravity, and GCV of fuel(s) combusted).

The LME methodology must account for all emissions during an ozone season. Therefore you may not switch between a different methodology and the LME method during the ozone season.

Unit-Specific NO_x Emission Rates

§ 75.19(c)(1)(iv)(A) specifies that a four-load NO_x emission rate test is required to establish a unit-specific NO_x emission rate value (see Part 75, Appendix E, Section 2.1). Also a multiplier of 1.15 must be applied to fuel-specific, unit-specific default NO_x emission rates (or the minimum rate of 0.15 lb/mmBtu must be used, if that is higher than the tested rate times 1.15). EPA has proposed changes to §75.19 which would remove the 1.15 multiplier for most units and allow testing at fewer than four loads. However, until that rule is promulgated, the four-load test and multiplier must be used. Check with your State contact to determine the status of those proposed revisions, especially if you are already using a unit-specific NO_x rate.

LME Monitoring Plan Submission Requirements for both electronic and hardcopy submissions are available in §75.53(f)(5).

Generation of Quarterly Data Files using MDC

The ***Monitoring Data Checking (MDC)*** Software has an option which allows you to create a report for a specific quarter and year for a particular LME Unit.

The report is generated based on the operating periods, long term fuel flow and load data (if necessary) and monitoring plan default values. The file is displayed in a preview window and can be saved to a user-defined filename and file location. The file will contain the applicable record types from the following list:

RT 100	Facility Identification
RT 305	Heat Input from Long Term Fuel Flow Measurements
RT 307	Cumulative NO_x Mass Emissions (Subpart H Only)
RT 360	Hourly Emissions Data for Qualifying Low Mass Emissions
RTs 500+	Monitoring Plan Data Stored in MDC for the Unit
RT 645	LME Qualifying Data for the same year as the EDR year.
RT 624	Miscellaneous QA Tests
RTs 627- 630	Fuel Flowmeter Certifications Data
RTs 900+	Compliance and Certification Data

Please see the MDC Helpfile for a more detailed description of the process and the resulting file. (From Help on the main menu, go to Contents> LME> LME EDR File Report.)

Table 4-1: Summary Comparison of LME NO_x and Heat Input Monitoring Methodologies in the OTC and Federal NO_x Budget Programs for LME Oil and Gas Fuel Fired Units

Unit Type	Current OTC Monitoring Method		Change Required for Subpart H Monitoring?	Case #
	NO_x	Heat Input		
Oil or Gas Low Mass Emissions (LME) Unit	A Unit can qualify as LME, regardless of the Current Methodology. However, the majority of LME Units are expected to be Units already using Unit Specific or Generic Default NO_x Emission Rates.	A Unit can qualify as LME, regardless of the Current Methodology. However, the majority of LME Units are expected to be Units already using Long Term Fuel Flow, Maximum Hourly Heat Input or an Alternative monitoring method.	If a Unit qualifies as LME (actual or potential annual NO_x emissions $\leq$ 50 tons annually, or $\leq$ 25 tons if ozone season reporting only), then the Unit may use unit or fuel specific or generic defaults to determine NO_x rate, and either maximum rated hourly heat input or long term fuel flow to determine heat input. See § 75.19 and § 75.74 (c)(10) for qualification and reporting requirements. Currently, Part 75 requires that a Unit-specific NO_x rate be determined from a 4-load Appendix E test and that a multiplier of 1.15 be applied to the resulting emission rate. Proposed revisions would change both of these requirements.	12

Case 12

LME Unit Using NO_x Unit Specific Default with Long Term Fuel Flow Heat Input Monitoring

Methodology Changes

If a Unit qualifies as LME (actual or potential annual NO_x emissions ≤ 50 tons annually, or ≤ 25 tons if ozone season reporting only), then the Unit may use unit or fuel specific or generic defaults to determine NO_x rate, and either maximum rated hourly heat input or long term fuel flow to determine heat input. See § 75.19 and § 75.74 (c)(10) for qualification and reporting requirements.

A Unit can qualify as LME, regardless of the Current Methodology. However, the majority of LME Units are expected to be Units already using Unit Specific or Generic Defaults for NO_x rate and Long Term Fuel Flow, Maximum Hourly Heat Input or an Alternative monitoring method to determine Heat Input.

EDR Monitoring Plan Changes

You will have to add some record types and you will have to deactivate and delete others. One key step you must take is to delete the existing RT 505 for NBP and define a new RT 505 for OTC-SUBH to identify the date when your unit begins complying with Subpart H requirements. You should add this RT 505 first before making other changes if you are using the ***Monitoring Data Checking (MDC)*** software program to make the changes.

Note! If you use MDC to change your monitoring plan RTs, first define a new RT 505 for OTC-SUBH and remove the RT 505 for NBP.

The following sections describe the other specific changes you will have to make to a number of monitoring plan record types to reflect the monitoring changes you are making to convert to Part 75, Subpart H monitoring.

RT 507

Remove: Do not report RT 507 for LME Units. If you previously reported, do not include in the EDR once LME methodologies are being used.

RT 510 **Add:** If applicable, add a long term gas or oil fuel flow system. Each long term fuel flow system should include DAHS software and the Appendix D, billing fuel flowmeter or other relevant components.

Deactivate: Any NO_x rate or Heat Input system.

RT 520 **Deactivate:** All formulas. (It is not necessary to report formulas for LME Units.)

RT 530 **Deactivate:** All span records, if any.

RT 531 **Add:** Record to define the appropriate LME default value, e.g., Generic NO_x emissions rates (lb/mmBtu), Fuel and Unit Specific NO_x emission rate, and maximum hourly rated heat input rate (mmBtu/hr). **See the *EDR v2.1 Instructions*** for the appropriate LME codes.

Deactivate: Any previously defined values reported in RT 531 unless they were generic default values that are still applicable. (Unit-specific NO_x rates from testing may still be valid for your unit if the proposed revisions to Part 75 have been promulgated, but check with your State before making this assumption.)

RT 535 **Remove:** Do not report RT 535 for LME Units.

RT 540 **Add:** For each long term fuel flow system, report RT 540 information. (This record is needed because maximum fuel flow is no longer defined in RT 531.) Do not report this record to report data on individual components. Report one RT 540 for each GAS, OILV or OILM system in RT 510, except when a system is made up of multiple fuel flowmeters using different methods of calibration. In this situation, report multiple RTs 540 for the system indicating the calibration method for each flowmeter (col. 38) in the subsequent records (all information in other fields of the multiple RTs 540 will be identical).

RT 560 **Remove:** Do not report RT 560 for LME Units, even if an Appendix E NO_x emissions correlation curve was previously defined.

RT 585 **Add:** A methodology record for parameter Heat Input (code HI in col. 10) and NO_x emissions rate (code NOXR in col. 10). See the ***EDR v2.1 Instructions*** for the appropriate LME codes.

Update: The codes in existing method records for defaults and/or long term fuel flow if you are still using those methods under the LME provisions.

Deactivate: The previously defined records for heat input and NO_x unless they were long term fuel flow and defaults and you are still using them.

RT 645

Add: This record to demonstrate qualification to use the LME provisions.

General EDR Changes

You will have to make general EDR changes (additional/discontinued fields, additional/ discontinued record types, changed codes) for certain record types. See ***Appendix A*** to this document, and consult the ***EDR v2.1 Instructions*** for further information, on the following record types:

- RTs 504, 505, 506, 508, 510, 531, 540, and 585

Case 12 Example Unit

Example Unit 12 is a Diesel and gas-fired unit. For the OTC NBP, this unit has been using a Unit Specific NO_x rate combined with long term fuel flow heat input determination to calculate NO_x mass. Since the unit qualifies as an LME unit and is still eligible to use defaults and long term fuel flow, the facility has decided to use generic default values and long term heat input under Subpart H. The attached comparison shows the changes made for each record type.

Example for Case 12: EDR Changes for a Unit that Qualifies as an LME Unit

RT 100	**EDR Version Changed from V2.0 to V2.1. Reporting Quarter and Year Changed**
OTC	10012000022001V2.0
SUBH	100120000**22002V2.1**
RT 102	**No Changes**
OTC/SUBH	102LME CASE ELECTRIC UTILITY 4911NJ029 395100 741200
RT 504	**Fields Added in v2.1**
OTC	504LME CT 500.019890101
SUBH	504LME CT 500.019890101 **175 12 153**
RT 505	**New record reported for Subpart H Participation beginning on 5/1/2002**
OTC	505LME NBP B OS19980701NJAC727-31NJ
SUBH	**505LME OTC-SUBH B OS20020501 NJ**
RT 506	**New record type in EDR v2.1. Required for all units.**
SUBH	**506LME LME LME LME 1989 120000120000**
RT 507	**No New Peaking Qualification Data for 2002, Unnecessary for LME Qualification**
OTC	507LME 20011998A 2.31999A 2.52000A 6.0 3.6PK
RT 510	**Updated DAHS version.**
OTC	510LME 120FA0ULTOLP DAHS PERFECT DATA, INC. PD1-1000 19980701 510LME M51FA0ULTOLP BOFFPDPMEASURERIGHT 19980701 510LME 120FA1ULTGSP DAHS PERFECT DATA, INC. PD1-1000 19980701 510LME FA1FA1ULTGSP BGFFTURMETERIT 19980701
SUBH	510LME 120FA0**C**LTOLP DAHS PERFECT DATA, INC. **LME PERFECT 11** 19980701 510LME M51FA0ULTOLP BOFFPDPMEASURERIGHT 19980701 510LME 120FA1**C**LTGSP DAHS PERFECT DATA, INC. **LME PERFECT 11** 19980701 510LME FA1FA1ULTGSP BGFFTURMETERIT 19980701

Example for Case 12: EDR Changes for a Unit that Qualifies as an LME Unit

RT 520	**All previous formulas marked for deletion.**
OTC	520LME UFA0HVOFF-15AHVOF = S#(M51-FA0) * GMW_DIE / LT_GMW_DIE 520LME UFA1HI F-19VHI_DIE = F#(FA0) * GCV_DIE / 10**6 520LME UFA2NOXMF-10ANOX_MASS_DIE = F#(FA1) * NOX_RATE_DIE 520LME UFA5HGASF-15AHGAS = S#(FA1-FA1) * GMW_GAS / LT_GMW_GAS 520LME UFA6HI F-20 HI_GAS = F#(FA5) * GCV_GAS / 10**6 520LME UFA7NOXMF-10ANOX_MASS_GAS = F#(FA6) * NOX_RATE_GAS 520LME UFA8NOXMN-3 NOX_MASS_TOT = F#(FA2) + F#(FA7)
SUBH	520LME **D**FA0HVOFF-15AHVOF = S#(M51-FA0) * GMW_DIE / LT_GMW_DIE 520LME **D**FA1HI F-19VHI_DIE = F#(FA0) * GCV_DIE / 10**6 520LME **D**FA2NOXMF-10ANOX_MASS_DIE = F#(FA1) * NOX_RATE_DIE 520LME **D**FA5HGASF-15AHGAS = S#(FA1-FA1) * GMW_GAS / LT_GMW_GAS 520LME **D**FA6HI F-20 HI_GAS = F#(FA5) * GCV_GAS / 10**6 520LME **D**FA7NOXMF-10ANOX_MASS_GAS = F#(FA6) * NOX_RATE_GAS 520LME **D**FA8NOXMN-3 NOX_MASS_TOT = F#(FA2) + F#(FA7)
RT 531	**Deactivated some previously reported records. New LME default values added.**
OTC	531LME GAS 4878.000HSCF MD PNGADES 1998070100 531LME NOXG 1.200LBMMBTUMD DSLUNBP 1998070100 531LME NOXG 0.700LBMMBTUMD PNGUNBP 1998070100 531LME NOXU 0.206LBMMBTUPM DSLCTEST1998070800 531LME NOXU 0.122LBMMBTUPM PNGCTEST1998070800 531LME OILV 3597.100GALHR MD DSLADES 1998070100
SUBH	531LME GAS 4878.000HSCF MD PNGADES 1998070100**2001093023** 531LME NOXG 1.200LBMMBTU**LM** DSLULME 1998070100 531LME NOXG 0.700LBMMBTU**LM** PNGULME 1998070100 **531LME NOXU 0.237LBMMBTULM DSLCTEST2002050100** **531LME NOXU 0.150LBMMBTULM PNGCTEST2002050100** 531LME NOXU 0.206LBMMBTUPM DSLCTEST1998070100**2001093023** 531LME NOXU 0.122LBMMBTUPM PNGCTEST1998070100**2001093023** 531LME OILV 3597.100GALHR MD DSLADES 1998070100**2001093023**
RT 540	**Previously defined Initial Method of Calibration Removed**
OTC	540LME FA0OILVDSL 6000.0GALHRURVNIST #40971 U 540LME FA1GAS PNG 36000.0HSCF URVMFC-4M-1986 U
SUBH	540LME FA0OILVDSL 6000.0GALHRURV C 540LME FA1GAS PNG 36000.0HSCF URV C

Example for Case 12: EDR Changes for a Unit that Qualifies as an LME Unit

RT 585	Codes Changed
OTC	585LME HI LTGF PNGPDEF 19980701 585LME HI LTOF DSLPDEF 19980701 585LME NOXRUDEF DSLPDEF 19980701 585LME NOXRUDEF PNGPDEF 19980701
SUBH	585LME HI **LTFF** DSLP**NA** 19980701 585LME HI **LTFF** PNGP**NA** 19980701 585LME NOXR**NOXU** DSLP**NA** 19980701 585LME NOXR**NOXU** PNGP**NA** 19980701
RT 586	**No Changes**
OTC/ SUBH	586LME NOX H2O P 19890601
RT 587	**No Changes**
OTC/SUBH	587LME DSL19980701 P 587LME PNG19980701 S
RT 645	**Added for LME qualification**
SUBH	**645LME 2002OS1999 9.314.7 0.0 0.0 932000 7.313.5 0.0 0.0 88200112.518.2 0.0 0.0 121**

SECTION 5: COMPARISON OF OTC AND SUBPART H REQUIREMENTS

Purpose of This Section

This section provides side by side comparison summaries of OTC and Subpart H monitoring and quality assurance requirements in instances where the requirements are different. OTC monitoring requirements in the Guidance for Implementation of Emission Monitoring Requirements for the NO_x Budget Program, dated January 28, 1997, referenced Part 75 requirements (November 20, 1996) for units not subject to the Acid Rain Program. Part 75, however, has been revised since the 1997 guidelines were issued (revisions were promulgated on October 27, 1998 (63 FR 57356) and May 26, 1999 (64 FR 28564)).

Note! Although this document provides brief summaries of current Subpart H rule provisions, you need to review carefully the actual rule text to transition successfully from OTC to Subpart H monitoring.

Monitoring Requirements/ Options

The following tables compare OTC and Subpart H monitoring requirements and options. An index to the tables and monitoring requirements/options is provided below:

! **Table 5-1: Units Using NO_x CEMS:**

- MPC, MEC, Span and Range Requirements
- Full Scale or High Range Exceedances
- Fuel Specific Moisture Default Option
- Maximum Heat Input Option
- Bypass Stacks
- Like-Kind Replacement Analyzers

! **Table 5-2: Missing Data Substitution:**

- NO_x
- Flow
- Diluent and Heat Input
- Moisture
- Fuel Flow

! **Table 5-3: Appendix D Fuel Flow:**

- Oil Sampling for Fuel GCV and Density

! **Table 5-4: Default NO_x Rates/Low Mass Emissions:**

- Default NO_x Rate Options
- Maximum Heat Input Option
- Long Term Fuel Flow Option
- Alternative Heat Input Method

Table 5-1: Units Using NO_x CEM System

Requirement/ Option	OTC	Subpart H
NO_x MPC Uncontrolled Units	The OTC guidelines provided three options for determining the MPC for an uncontrolled unit: 1. A default value from Tables 2-1 and 2-2 of Appendix A. 2. A minimum of 30 days of historical CEM data representing various operating conditions. 3. Reference method test results at various operating conditions.	Appendix A similarly provides three options, but with a few differences for 1 and 2: 1. A default value from Tables 2-1 and 2-2 or use 400 ppm for oil/gas units or 800 ppm for coal units. 2. A minimum of 720 hours of historic CEM operating hours when combusting the fuel or blend with the highest NO_x emission rate. 3. Reference method test results at various operating conditions. (App. A, § 2.1.2.1)
NO_x MPC for Controlled Units	For a controlled unit the MPC was determined using the values in Tables 2-1 and 2-2 of Appendix A.	In Appendix A the MPC for a controlled unit is determined in the same manner as for uncontrolled units except that if reference method testing or historic data options are used the data collected must represent uncontrolled operation. (App. A., § 2.1.2.1)
NO_x MEC for Controlled Units	The OTC guidelines provided three options for determining the MEC of a controlled unit: 1. Percent Reduction Equation 2. A minimum of 30 days of historical CEM data representing various operating conditions. 3. Reference method test results based on tests performed at various loads, and operate at the highest excess O_2 level expected under normal operating conditions.	In Appendix A, a separate MEC determination is required for each fuel. There are three options which include using 1. Equation A-2, which is similar to the Percent Reduction Equation, 2. Using historical CEM data. Reference method testing is to be done at various loads and while control equipment operations are stable. If historic data is used, a minimum of 720 hours of historic CEM operating hours during stable operation under various loads is required, or 3. Reference method testing. (App. A, § 2.1.2.2)

(cont.)

Table 5-1: Units Using NO_x CEM System (cont.)

Requirement/ Option	OTC	Subpart H
NO_x Monitor Span and Range for Controlled Units	Under OTC the span for a unit was set at a value between 100% and 125% of the MEC. The range was set such that it was equal to or greater than 125% of the MEC, and the majority of measured values are within 20 - 80% of the range. A dual range monitor was required if the low range was exceeded more than 72 hours in an ozone season.	In Appendix A, the "high" span value is set between 100% and 125% of the MPC. The high range is set such that the reading are kept, to the extent practicable, between 20% and 80% of full-scale range of the instrument. The MEC is then compared to the high range value. If the MEC values for all fuels are $\geq$ 20.0 percent of the high range value, the high span and range values are sufficient. If any of the MEC values is < 20.0 percent of the high range value, two spans (low and high) are required, one based on the MPC and the other based on the MEC. (App. A, §§ 2.1.2.3 and 2.1.2.4)
Annual Monitor MPC, MEC, Span and Range Evaluation	The OTC guidelines do not require annual span and range evaluations.	In Appendix A, the span and range is to be evaluated each year, at a minimum, and the span and range are to be changed if the majority of emissions over the year are not within 20% - 80% of monitor range (with certain exceptions). (App. A, §§ 2.1.2.5 and 2.1)
Full Scale or High Range Exceedance	For an uncontrolled unit, if not due to fuel switching, report a NO_x concentration equal to 150% of the full scale range for every hour, and adjust the instrument range. For an uncontrolled unit, if due to fuel switching, or a controlled unit due to control equipment operation, report the MPC for the hour based on Tables 2-1 and 2-2 of Appendix A. If the full scale range was exceeded for 72 hours or more during an ozone season, install an additional high range analyzer.	Under Appendix A, for exceedances of the high full scale range, report 200.0 percent of the current full-scale range as the hourly NO_x concentration for each hour of the full-scale exceedance and make appropriate adjustments to the MPC, span, and range to prevent future full-scale exceedances. (App. A, § 2.1.2.5)
Fuel Specific Moisture Default Option	Documented moisture default constants allowed in place of an hourly moisture measurement, if burning oil and/or gas.	Appendix A allows specific moisture defaults for coal and wood (but not for oil and gas) in place of an hourly moisture measurement. (§§ 75.71(b) and 75.11(b)(1))

(cont.)

Table 5-1: Units Using NO_x CEM System (cont.)

Requirement/ Option	OTC	Subpart H
Maximum Heat Input Option	OTC allowed a source to petition the State regulatory agency to use a unit-specific maximum hourly heat input to calculate NO_x mass based on the higher of the manufacturer's maximum rated capacity, or the highest observed hourly heat input in the past five years.	Under Subpart H, the use of maximum heat input to determine NO_x mass emission rate is only allowed for Low Mass Emissions units. (§§ 75.70 and 75.19)
Bypass Stacks	Under the OTC guidelines a unit may either install a NO_x CEM in each stack, or install a NO_x CEM in the main stack, and use the maximum NO_x emission rate for the bypass stack emissions.	Subpart H provides two options for NO_x emissions from bypass stacks at units requiring a NO_x CEMS. A unit can either use a CEMS on the bypass stack or perform reference method monitoring. Currently there is no provision in the rule for the use of maximum default values for bypass stack hours, although EPA does allow this through policy guidance and on 6/13/01 proposed to add it to Part 75 . (§ 75.72(c), ARP Policy Manual, Q 17.6, June 13, 2001 Federal Register).
Like-kind Replacement Analyzers	Like-kind replacement analyzers are not specified in OTC monitoring guidelines.	Subpart H provides an additional back-up monitoring alternative, for up to 720 hours per year--- like-kind replacement analyzers (same make and model as the primary analyzer and connected to the same probe and interface as the primary analyzer). (§ 75.20(d)(2))

Table 5-2: Missing Data Substitution

Requirement/ Option	OTC	Subpart H
Missing Data Procedures for NO_x Emission Rate or Concentration CEM	The OTC guidance document allowed using the Part 75 missing data substitution provisions or substituting the maximum potential NO_x emission rate (MER) or maximum potential NO_x concentration (MPC) for every missing data hour. In addition, the OTC questions and answers provided additional guidance allowing use of fuel-specific and control-status specific MER and MPC values either as the default for every missing data hour or as part of the Part 75 substitution algorithm when the MER or MPC was required.	Subpart H requires use of the Part 75 missing data procedures, which are load-based for NO_x emission rate. On 6/13/01, EPA proposed to revise Part 75 to add fuel-specific and control-status-specific missing data substitution. (§ 75.33) (June 13, 2001 Federal Register)

(cont.)

Table 5-2: Missing Data Substitution (cont.)

Requirement/ Option	OTC	Subpart H
Missing Data Procedures for Stack Flow	The OTC guidance document allowed using the Part 75 missing data substitution provisions or substituting the maximum Potential Flow rate (MPF) for every missing data hour.	Subpart H requires use of the Part 75 missing data procedures for flow. (§ 75.33)
Missing Data Procedures for CO_2, O_2, CEMs and Heat Input	For missing data reporting for CO_2 or O_2 used for heat input calculations, the OTC guidelines provide a choice between using the maximum CO_2% or minimum O_2% defined in the monitoring plan or basing the substitute value on the amount of quality assured data and whether availability is less than 90%.	The missing data provisions in Subpart H for CO_2 and O_2 used for heat input are also based on the amount of quality assured data and availability, but also the length of the missing data period. There are no provisions for simply using the maximum CO_2% or minimum O_2% in the unit's monitoring plan. For the first 720 hours of quality assured data the requirements are similar. However, after the initial 720 hours, substitute values are based on the duration of the missing data period as well as availability. (§ 75.36 and Table 1)
Missing Data Routine for Moisture CEM	The OTC guidelines allow substituting 0.0% for every hour of missing data or using an algorithm based on availability and amount of quality assured data available. The average of the hour before and hour after moisture values are used for the first 720 hours of QA'd moisture data and after that if moisture data availability is $\geq$ 90%. A value of 0.0% is reported if no prior quality assured data exist or after 720 QA'd hours if the data availability is < 90%.	Subpart H missing data procedures for moisture are the inverse of those for CO_2 and O_2 except that if certain NO_x emission rate formulas are in use (19-3, 19-4 or 19-8), they are the same. (e..g., if there are no prior quality assured moisture values and equation 19-6 is used, the minimum percent moisture would be substituted, but if equation 19-3 is used, the maximum percent moisture would be substituted.) (§ 75.37 and Table 1)
Missing Data for Fuel Flow	The OTC guidance document allowed using the Part 75 missing data substitution provisions or substituting the maximum Potential Fuel Flow rate for every missing data hour.	Subpart H requires use of the Part 75 missing data procedures for fuel flow. (Appendix D, §§ 2.4.2 and 2.4.3)

Table 5-3: Appendix D Fuel Flow for Gas and Oil Fired Units

Requirement/ Option	OTC	Subpart H
Oil Sampling for Fuel GCV and Density	The OTC guidelines provided four options for oil sampling: 1. Sample each oil delivery, 2. Sample from the fuel storage tank after each fuel delivery, 3. Daily flow proportional sampling by extracting a hourly sample, or 4. Daily as fired samples.	Appendix D procedures for determining oil GCV and density are slightly different, but similarly provide for sampling after each delivery, from the fuel storage tank, daily flow proportional sampling, and daily as fired sampling. Subpart H oil sampling requirements are in App. D, § 2.2.1. The handling of the timing of ozone season sampling of storage tanks and deliveries are also different in Subpart H. (§ 75.74(c)(5))

Table 5-4: Default NO_x Emission Rates/Low Mass Emissions Methodology

Requirement/ Option	OTC	Subpart H
Default NO_x Rate Options	A unit that combusted only oil and/or gas and is not required to use NO_x CEMS, was allowed to develop and use a unit-specific default NO_x emission rate factor, or the unit may have used generic default emission rates based on fuel combusted and type of unit. In some instances, testing at fewer than four loads was allowed to derive the default emission rates.	Under Subpart H, only units burning only gas and/or oil, and demonstrate that NO_x annual emissions are less than 50 tons (for year-round reporters) or that ozone season emissions are less than 25 tons (for ozone season-only reporters), may develop a unit specific default NO_x rate or use a generic default NO_x rate. Unit specific default rates are based on testing at four load levels per Appendix E, instead of the lesser number of load levels that may have been used in some cases by OTC units. In addition the unit specific rate is based on multiplying the maximum tested emission rate by a 1.15 multiplier for controlled and uncontrolled units, or using a default rate of 0.15 lb/mmBtu for controlled units, whichever is higher. On June 13, 2001, EPA proposed substantive revisions to § 75.19, including changes to the method of determining default NO_x emission rates. (§§ 75.74 (c)(10) and 75.19, June 13, 2001 Federal Register)

(cont.)

Table 5-4: Default NO_x Emission Rates/Low Mass Emissions Methodology (cont.)

Requirement/ Option	OTC	Subpart H
Maximum Heat Input Option	OTC allowed a source to petition the State regulatory agency to use a unit-specific maximum hourly heat input to calculate NO_x mass based on the higher of the manufacturer's maximum rated capacity, or the highest observed hourly heat input in the past five years.	Under Subpart H, the use of maximum heat input to determine NO_x emission rate is allowed for Low Mass Emissions units. (§§ 75.70 and 75.19)
Long Term Fuel Flow Option	Under OTC a unit that combusted only oil and/or gas and that had elected to use a unit-specific or generic default NO_x emission rate was allowed to determine hourly heat input based on fuel usage measurements for a specified period that was longer than an hour.	Under Subpart H, only units burning only natural gas and/or oil, and demonstrate that NO_x annual emissions are less than 50 tons (for year-round reporters) or that ozone season emissions are less than 25 tons (for ozone season-only reporters), may use records of long-term fuel flow (quarterly), to calculate hourly heat input to a low mass emissions unit. (§§ 75.74 (c)(10) and 75.19)
Alternative Heat Input Method	States approved some alternative heat input determinations for OTC Sources.	Under Subpart H, sources may petition for alternative monitoring methods, but they must meet the requirements of Part 75, Subpart E.

Certification/ Quality Assurance Tests

The following tables compare OTC and Subpart H monitoring requirements and options. An index to the tables and certification and quality assurance requirements/options is provided below:

- **Table 5-5: CEMS QA - RATA Standards:**

  - NO_x Emission Rate System
  - NO_x Concentration System
  - Moisture System

- **Table 5-6: CEMS QA - RATA Test Requirements:**

  - Load Level Definitions
  - Flow RATA Load Levels
  - New Flow Reference Methods
  - RATA Grace Period
  - RATA Extension for non-QA Operating Hours

- **Table 5-7: CEMS QA - Flow to Load:**

  - Flow to Load/Gross Heat Rate Check

- **Table 5-8: CEMS QA - Data Validity:**

  - Conditionally Valid Data

- **Table 5-9: CEMS QA - Calibrations:**

  - Calibration Gas Protocol
  - Mid Range Daily Calibration Option

- **Table 5-10: CEMS QA - Linearity:**

  - Low Span Monitor Exemption
  - Quarterly Linearity Grace Period
  - Linearity Frequency

- **Table 5-11: Appendix D - Fuel Flow:**

  - Fuel Flow to Load Option
  - Fuel Flowmeter Calibrations
  - Fuel Flowmeter Inspections

Table 5-5: CEM System Quality Assurance - RATA Standards

System Type	OTC		Subpart H	
	Relative Accuracy Standard	BAF	Relative Accuracy Standard	BAF
NO_x Emission Rate System	20.0% (all annual frequency) or If not passing on a relative accuracy basis and mean CEM value is ≤ 0.20 lb/mmBtu (low emitter), mean CEM value within ± 0.04 lb/mmBtu of the reference method mean (all annual frequency)	Must use 1.100 if RA >10.0% (or mean difference > 0.02 lb/mmBtu if passing RATA as a low-emitter). Otherwise, as calculated.	10.0% for semi-annual frequency 7.5% for annual frequency (App. A, § 3.3.2, App. B, § 2.3.1.2) or If not passing on a relative accuracy basis and the mean CEM value is ≤ 0.200 lb/mmBtu (low emitter), mean CEM value within ± 0.020 lb/mmBtu of reference method mean for semi-annual frequency, or mean CEM value within ± 0.015 lb/mmBtu of the reference method mean for annual frequency (App. B, § 2.3.1.2)	As calculated or may use 1.111 for low-emitter (App. A, § 7.6.5(b))
NO_x Concentration System	20.0% (all annual frequency) or If not passing on a relative accuracy basis and mean CEM value is ≤ 250 ppm (low emitter), mean CEM value within ± 30 ppm of the reference method mean value	Must use 1.100 if RA >10.0% (or mean difference > ±15 ppm if passing RATA as a low-emitter). Otherwise, as calculated.	10.0% for semi-annual frequency 7.5% for annual frequency (App. A, § 3.3.7, App. B, § 2.3.1.2) or If not passing on a relative accuracy basis and the mean CEM value is ≤ 250.0 ppm (low emitter), mean CEM value within ± 15.0 ppm of the reference method mean for semi-annual frequency, or (App. A, § 3.3.7(b)) mean CEM value within ± 12.0 ppm of the reference method mean for annual frequency. (App. B, § 2.3.1.2)	As calculated or may use 1.111 for low-emitter (App. A, § 7.6.5(b))
Moisture System	15.0% or mean difference within ±1.0% H_2O (all annual)	None	10.0% or mean difference within ± 1.5 % H_2O for semi-annual. (App. A, § 3.3.6), or ≤ 7.5%, or mean difference within ± 1.0 % H_2O for annual. (App. B, § 2.3.1.2)	None

Table 5-6: CEM System Quality Assurance - RATAs Testing Requirements

Requirement/ Option	OTC	Subpart H
Load Level Definitions	The OTC guidelines referenced a previous version of Part 75, Appendix A which identified low load as anywhere from the minimum safe stable load to 50% of maximum load. (There was no minimum separation between the adjacent load levels and no definition of normal load.)	Appendix A now more clearly defines the load levels for RATAs. The low, mid, and high load levels are defined in terms of the range of operation. The most frequently used load would be designated as normal, and there is a provision for designating a second normal load level. (App. A, § 6.5.2.1)
Number of load levels for Flow RATA	A 3-load RATA is required, unless the State approved a single-load RATA for initial certification. This approval would be based on the owner or operator's demonstration that the unit has operated at a constant load (operated within 10% of the average load for 90% of the time for the previous year).	A 3-load RATA is required for initial certification, except for peaking unit and bypass stack monitors, which only require single-load RATAs. For quality-assurance, the required load levels for flow RATAs are given in Part 75 (App. B, § 2.3.1.3(c)): 1. A 3-load RATA, at the low-, mid-, and high-load levels shall be performed for the initial certification, recertification, and when the polynomial coefficients or K-factor(s) are changed. A 3-load RATA is required at least once in every period of five consecutive calendar years. 2. An annual 2-load flow RATA shall be done at the two most frequently used load levels, 3. If the flow monitor is on a semiannual RATA frequency, 2-load flow RATAs and single-load flow RATAs at normal load may be performed alternately. 4. A single-load annual flow RATA, at the most frequently-used load level, may be performed in lieu of the 2-load RATA if a historical load data analysis shows that the unit has operated at a single load level for ≥ 85.0 percent of the time. 5. Only single-load flow RATAs are required for peaking unit and bypass stack monitors.
Flow RATAs New Part 60 Flow Test Methods	New Part 60 reference methods for stack flow (Method 2F, 2G, 2H) are not available for sources that report in EDR v2.0.	Part 75 was revised to allow the use of additional flow reference methods in Part 60, Appendix A.
RATA Grace Period	A RATA grace period is not available under the OTC guidelines.	Part 75 has been revised to include a 720 consecutive unit operating hour grace period for completion of RATA testing when a RATA has not been performed by the end of the quarter in which the RATA is required. (App. B, § 2.3.3(a))
RATA Extension for non QA Operating Quarters	The OTC guidelines required that a RATA be performed and completed at least once every calendar year. Annual RATAs were to be performed at least four months apart. No extensions for non QA operating quarters.	Parts 72 and 75 have been revised to base RATA frequency on "QA operating" quarters rather than quarters. A QA operating quarter is a quarter in which there are at least 168 unit or stack operating hours. Semiannual RATAs, for example, are to be performed every two successive QA operating quarters. (App. B, § 2.3.1.1)

Table 5-7: CEM System Quality Assurance - Flow to Load

Requirement/ Option	OTC	Subpart H
Flow to Load/Gross Heat Rate Check	OTC guidelines do not require a flow to load or gross heat rate check.	Part 75, Appendix A has been revised to add a new quarterly quality assurance requirement for flow monitors—the flow-to-load ratio or gross heat rate test. A reference value of the ratio of flow rate to unit load or gross heat rate is determined each time that a passing flow RATA is performed at a normal load level. A separate reference value is determined for each normal load level. (App. A, § 7.7(a), App. B, § 2.2.5)

Table 5-8: CEM System Quality Assurance - Data Validity

Requirement/ Option	OTC	Subpart H
Conditionally Valid Data	Conditionally valid data are not allowed by the OTC guidelines.	Subpart H allows the use of conditionally valid data from CEMS during certification, and recertification test periods and during the periodic linearity and RATAs. The purpose is to minimize the hours of substitute data or maximum potential values reported. Rules for the data validation are provided in § 75.20(b)(3). For initial certifications see App. A, §§ 6.2(a), 6.3.1(a), 6.3.2(a), 6.4(a) and 6.5(f). For linearity checks and RATA data validation procedures see App. B, §§ 2.2.3(b) and 2.3.2(b).

Table 5-9: CEM System Quality Assurance - Calibration Gases

Requirement/ Option	OTC	Subpart H
Cal Gas Protocol Changes	During the ozone season, perform all daily calibrations and linearity checks using protocol calibration gases. For tests performed during the non-ozone season conform with applicable State requirements for calibration gas. A protocol gas is a calibration gas mixture prepared and analyzed according to Section 2 of the EPA Traceability for Assay and Certification of Gaseous Calibration Standards (revised September 1993), EPA 6000 R93/224 or a revised version of this standard approved by both EPA and the State.	Part 75 requires "calibration gas" as defined in section 5.1 of Appendix A, to be used for daily calibrations and reference method testing. Parts 72 and 75 calibration gas protocols have been revised to be consistent with a September 1997 protocol document (EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards, EPA600/R-97/121): 1. App. H, which was based on an older 1987 Protocol 1, has been removed from Part 75. 2. §§ 72.2 and 72.3 calibration gas definitions and abbreviations have been revised. 3. App. A, §§ 5.1.1 - 5.1.8 (Standard Reference Materials) have been revised. 4. App. A, § 6.2 has been revised to reference App. A, § 5.1. 5. § 75.22 (c)(1) was revised to reference App. A, section 5
Mid Range Cal Gas Option	Under OTC calibration error tests are performed at two concentrations: (1) zero-level and (2) high level.	Part 75, Appendix A now allows the use of a zero-level and a mid-level (50.0% to 60.0% of the span value) or high-level calibration gas in calibration error tests. (App. A, § 6.3.1 and App. B, § 2.1.1)

Table 5-10: CEM System Quality Assurance - Linearity Tests

Requirement/ Option	OTC	Subpart H
Low Span Monitor Exemption	OTC guidelines do not provide an exemption from the linearity test requirements for low span value monitors. (However, for monitors with a span ≤ 50 ppm, only two points are required (low and high) and for monitoring with a span ≤ 25 ppm a two point test with a zero and non-zero gas is allowed.)	Appendix A provides a linearity exemption for low span NO_x monitors if the NO_x span value for a particular monitor range is ≤ 30 ppm. (App. A, § 6.2)
Quarterly Linearity Grace Period	The OTC guidelines provide a 72 unit operating hour grace period to perform the required linearity test for a quarter in which the unit operates for more than 168 hours.	The linearity grace period in Appendix B is 168 consecutive unit or stack operating hours: (App. B, § 2.2.4(a))

(cont.)

Table 5-10: CEM System Quality Assurance - Linearity Tests (cont.)

Requirement/ Option	OTC	Subpart H
Linearity Frequency	Perform and report a successful linearity test for each analyzer once during each calendar quarter in which the unit operates more than 168 hours. At a minimum, one linearity test must be performed every calendar year that the unit operates.	Appendix B requires that a linearity check be performed at least once during each QA operating quarter (≥168 unit or stack operating hours). The tests are to be conducted no less than 30 days apart and to the extent practicable. (App. B, § 2.2.1) Also no more than four successive calendar quarters shall elapse after the quarter in which a linearity check of a monitor or monitoring system (or range of a monitor or monitoring system) was last performed. (App. B, § 2.2.3(f))

Table 5-11: Appendix D Quality Assurance Fuel Flow Monitoring for Gas and Oil Fired Units

Requirement/ Option	OTC	Subpart H
Fuel Flow to Load Option	Fuel flowmeters must be calibrated the earlier of every two calendar years or every four unit operating quarters in which the fuel measured is combusted at the unit. There are no fuel flowmeter QA testing extensions.	In Appendix D, if the procedures of a fuel flow-to-load test are performed during each "fuel flowmeter QA operating quarter", subsequent to a required flowmeter accuracy test or transmitter accuracy test and primary element inspection, (as applicable), those procedures may be used to meet the requirement for periodic quality assurance testing for a period of up to 20 calendar quarters from the previous accuracy test or transmitter accuracy test and primary element inspection. (App. D, § 2.1.7)
Fuel Flowmeter Calibrations	Fuel flowmeters must be calibrated the earlier of every two calendar years or every four unit operating quarters in which the fuel measured is combusted at the unit.	Appendix D extends the maximum amount of time between fuel flowmeter accuracy tests to 20 successive calendar quarters, and bases the four quarter test interval on "fuel flowmeter QA operating quarters". (App. D, § 2.1.6(a))
Fuel Flowmeter Inspections	The OTC guidelines do not require visual inspections of orifice plate or venturi meters.	Appendix D requires a visual inspection of the orifice, nozzle, or venturi meter at least once every twelve calendar quarters. The fuel flow to load option (App. D, § 2.1.7) may be used to reduce the inspection frequency. (App. D, § 2.1.6.4(a))

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SECTION 6: OZONE SEASON ONLY REPORTING FOR OTC-SUBPART H SOURCES

Purpose of This Section

This section provides a summary of the special considerations for monitoring and reporting on an ozone season basis as opposed to an annual basis. The OTC NBP allowed for ozone season only reporting in some circumstances, and the NO_x Budget Trading Programs build on that experience.

Applicability

Currently under the OTC NO_x Budget Program, you have to report on a year-round basis for units that use a NO_x CEMS to account for NO_x emissions. Otherwise, OTC States (other than Pennsylvania) allow non-Acid Rain units without a CEMS to report data on an ozone season basis for the OTC NO_x Budget Program. Under the NO_x SIP Call, EPA allows both ozone season only reporting and annual reporting for non-acid rain units. Each of the OTC States have allowed for ozone season only reporting in their SIPs for all non-Acid Rain units, except Massachusetts which continues to limit ozone season reporting to non-Acid rain units that do not use CEMS.

Reporting Periods

You will report data for the second and third quarters. For the second quarter report, the data must be submitted for May and June (sources may also elect to submit data for April). The third quarter report will cover the entire quarter, July-September. The second quarter report may also include results from quality assurance activities that occur during the non-ozone period -- see below for further details on what non-ozone season quality assurance activities may be required. If you do not operate in the second quarter, then that information would be included in your third quarter report.

Transition from Annual OTC Reporting

The EDR v2.1 Instructions for Record Type (RT) 508 address this transition reporting for sources that already are using EDR v2.1. As detailed in the Instructions, any change in reporting frequency takes effect at the beginning of the next calendar year. If you are changing your reporting frequency from year-round to ozone season, you are not required to report a first quarter report in the calendar year following when you elect to make the change. Your next required submission would be the second quarter, at the start of the ozone season for the next calendar year. Regardless of which method you choose, the reporting frequency must be the same for any stack or pipe and its associated units. The Instructions identify the following critical steps for changing from year-round reporting to ozone season reporting:

- Report a RT 508 in your fourth quarter report.

- In column 10, enter the new reporting frequency as "OS" (ozone season). (Do not change the reporting frequency reported in RT 505 in the fourth quarter report. The reporting frequency in RT 505 must be changed in the first report submitted under the new ozone

season reporting frequency which begins May 1st of the second quarter).

- In column 12, enter the beginning date of the new reporting frequency (i.e., May 1st of the next calendar year).

- Submit your next quarterly report for the second quarter (May 1 - June 1) of the next calendar year.

For units that currently report under EDR v2.0, these instructions will not work because you do not have RT 508 under EDR v2.0. Instead, you should report a changed RT 505 in your fourth quarter report (your final report under EDR v.2.0) to indicate that you will switch to ozone season reporting. This indication will let EPA know of your changed status, and that no first quarter 2002 report is required for your unit.

Special QA Procedures

For any unit that you report on an ozone season only basis, you must meet the specific quality assurance procedures of 40 CFR 75.74(c). You will have to conduct some Subpart H quality assurance testing prior to the beginning of the ozone season (before May 1) and other testing during the ozone season (May 1 through September 30). These separate requirements are summarized in the following table. Because of some of the complexities of conducting quality assurance to support ozone season only reporting, you should evaluate these requirements carefully before determining whether the switch to ozone season only reporting is practical and cost effective for your individual circumstances.

When required QA tests that are done outside of the ozone season (between October 1 of the previous year and April 30 of the current year) affect data validation in the current ozone season, submit the results of these QA tests in the quarterly report for the second calendar quarter of the current year, or with the third quarter report, if the second quarter is a non-operating quarter (see § 75.74(c)(6)(v)).

Table 6-1:
QA Requirements for Units Reporting on an Ozone Season Basis

Perform these QA tests...	For this equipment...	At these times...	With these qualifications and exceptions...
Daily calibrations (outside ozone season)	Each required CEMS	From the date and hour of any RATA or linearity check passed in the "pre-ozone season period" (i.e., from 10/1 of previous year through 4/30 of current year)	----
Daily calibrations (inside ozone season)		Throughout the ozone season (5/1 - 9/30)	----
Daily interference checks (inside ozone season)	Flow monitor	Throughout the ozone season	----
Daily interference checks (outside ozone season)		From the date and hour of any flow RATA passed in the pre-ozone season period	----
Linearity check (outside ozone season)	Each required gas monitor	During the pre-ozone season period from 10/1 of previous year through 4/30 of current year	If the test is not completed by 4/30, a 168 operating hour grace period is allowed if a linearity check was passed in the previous year and if the unit operated for < 336 hours in the last ozone season
Linearity check (inside ozone season)		In 2nd and 3rd quarters	! The linearity check is required only in QA operating quarters ! No grace periods allowed for these checks

(cont.)

Table 6-1:
QA Requirements for Units Reporting on an Ozone Season Basis (cont.)

Perform these QA tests...	For this equipment...	At these times...	With these qualifications and exceptions...
! RATA ! Bias test (NO_x and flow systems, only)	! NO_x-diluent CEMS ! NO_x concentration CEMS ! Flow monitor ! Moisture monitor ! Diluent monitor used only for heat input rate	Pre-ozone season period from 10/1 of previous year through 4/30 of current year	! Not required if RATA from previous ozone season is able to validate data for part or all of current ozone season ! If the results of this RATA qualify for an annual RATA frequency, you may use this RATA to validate data for entire current ozone season ! If the results of this RATA require a semiannual frequency, you may use this RATA to validate data for entire current ozone season (if test was performed in the current year) or only through 6/30 of current year (if test was performed in the previous year) ! If the RATA is not completed by 4/30, a 720 operating hour grace period is allowed if a RATA was passed in the previous year and if the unit operated for < 336 hours in the last ozone season ! If the RATA is not completed by 4/30 and you do not qualify for a grace period, you may use the conditional data validation procedures of § 75.20 (b)(3) in the current ozone season, subject to certain restrictions.

(cont.)

Table 6-1:
QA Requirements for Units Reporting on an Ozone Season Basis (cont.)

Perform these QA tests...	For this equipment...	At these times...	With these qualifications and exceptions...
! RATA ! Bias test (NO_x and flow systems, only)	! NO_x-diluent CEMS ! NO_x concentration CEMS ! Flow monitor ! Moisture monitor ! Diluent monitor used only for heat input rate	Inside the ozone season, i.e., in 2nd or 3rd quarter	! Required only when a pre-ozone season RATA or a RATA performed during the last ozone season is not able to quality assure data for the entire current ozone season ! You may opt to perform all required RATAs in the 2nd or 3rd quarter instead of performing RATAs outside the ozone season ! You may use an ozone season RATA to validate data for part or all of the next ozone season, if the RATA results qualify for an annual frequency, and if you perform daily calibrations (and interference checks if applicable) from 10/1 of current year through 4/30 of the next year
Flow-to-load ratio test	Flow monitor	In 2nd and 3rd quarters	! Required only in "QA operating quarters" ! Complex configurations may be exempted by petition under § 75.66
Leak check	DP-type flow monitor	In 2nd and 3rd quarters	Required only in "QA operating quarters" (≥168 unit operating hours)
Fuel flowmeter accuracy tests	Fuel flowmeter	Every four "fuel flowmeter QA operating quarters" (fuel measured by flowmeter is combusted ≥168 unit operating hours)	! Include calendar quarters outside the ozone season when determining the accuracy test deadline ! For orifice, nozzle and venturi-type flowmeters, visual inspections are also required every 3 years ! An optional "fuel flow-to-load" or "gross heat rate" test (see Appendix D, section 2.1.7) may be performed in the 2nd and 3rd quarters to extend the interval between flowmeter accuracy tests to up to 20 quarters

Key EDR Record Types

Appendix C of the ***EDR v2.1 Instructions*** includes detailed explanations of how to assemble an EDR for your particular type of unit. In addition, the main body of the Instructions contains detailed information on each individual record type in the EDR. For applicable record types, the Instructions contain specific guidance for ozone season-only reporters. The following is a list of the EDR record types that provide this guidance and a summary of the special ozone season-only reporting provisions. To determine all of the required record types for your particular monitoring scenario (e.g., NO_x emission rate CEM system and Appendix D Fuel Flow metering), refer to Appendix C.

You should make note of the record types on this list and refer to the version 2.1 Instructions for further details, to determine how your ozone season-only reporting status will affect your EDR v2.1 reporting. The page number in the January 24, 2001 .pdf version of the v2.1 Instructions is included in the parenthetical description of each record type, below:

- ***RT 305 (LME long term fuel flow, p. 73)***. The Instructions indicate how to report for ozone season only values (Field 16).

- ***RT 307 (Cumulative NO_x mass data, p. 79-80)***. Leave blank Fields 67, 77 and 87 -- cumulative annual NO_x tons, heat input and operating hours.

- ***RT 360 (LME hourly emissions data, p. 94)***. You can report operating time (Field 18) only for ozone season.

- ***RT 505 (Program indicator, p. 102)***. After switching from OTC to Part 75 monitoring, in the new record for program code "OTC-SUBH" report the reporting frequency in column 22 as "OS."

- ***RT 507 (Peaking/gas-fired qualifying data, p. 107-108, 110-111)***. If you report on an ozone season basis, Part 75 allows you to qualify as a peaking unit based on ozone season data only (see § 75.74(c)(11)). The EDR Instructions clarify how to report data that you rely on to qualify as a peaking unit using ozone season data. You will report in your second quarter report data from the previous ozone season to update the information in this RT, or to report that you no longer qualify as a peaking unit.

- ***RT 508 (Subpart H reporting schedule, p. 111-113)***. You will use this RT to indicate that you report on an ozone season only basis. Follow the instructions provided.

- ***RT 556 (conditionally valid data, p. 166, 170).*** You must resolve all conditionally valid data recorded during the ozone season no later than the deadline for submitting the third quarter emissions

report, either by using missing data substitution or by completing the required QA test(s). In some cases, resubmittal of the emissions report for the second quarter may be required to fully resolve conditionally valid data for the ozone season (see § 75.74(c)(3)(xi) and (xii)). You can use the conditionally valid flag in Field 51 only in the second quarter report.

! ***RTs 601/602/603/605/606 (Various QA test data records, p. 185-187, 189-190, 192)***. The Instructions provide information on when checks are required and how to report these QA test data.

! ***RTs 610/611 (RATA and bias test data, p. 195)***. You will not use the QA operating quarter method of determining RATA deadlines and data validation status. Instead, a successful RATA resulting in a semiannual (or annual) frequency validates data from a CEMS for two (or four) calendar quarters (not QA operating quarters) following the quarter in which the RATA is passed (see §§ 75.74(c)(2)(ii)(F) and (G) and § 75.74(c)(3)(vii)). A grace period is conditionally allowed within the ozone season, when the data validation window from the previous RATA has expired prior to the start of the current ozone season (see § 75.74(c)(2)(ii)(H)). To claim this grace period, follow the applicable instructions under RT 699. Report the appropriate reason code in Field 131 of RT 611.

! ***RT 624 (Other QA, including flowmeter primary element inspections, p. 211)***. Report out-of-season primary element inspection in the quarterly report for the second calendar quarter of the current year (or in the third quarter report, if the second quarter is a non-operating quarter).

! ***RTs 627/628 (Fuel flowmeter accuracy tests, p. 212-214)***. You must include all fuel flowmeter QA operating quarters for the entire year when determining the deadline for the next accuracy test (see § 75.74(c)(4)). If you perform a required test outside the ozone season to validate data in the current ozone season, you need to report the results of the test in the quarterly report for the second calendar quarter of the current year (or in the third quarter report, if the second quarter is a non-operating quarter).

! ***RTs 629/630 (Fuel flow-to-load test, p. 216, 219)***. If you select this test option, you only need to conduct the test during the ozone season, and report RTs 629/630 for the second and third calendar quarters, if those quarters are operating quarters (see § 75.74(c)(3)(v)). See RT 696, below, for claiming accuracy test extension based on this test.

! ***RT 695 (single-load RATA, p. 230-231)***. You will not use this RT because this option is not available for ozone season-only reporters. You must conduct a two-load flow RATA for routine quality-assurance, and a three-load RATA at least once every five years and whenever the polynomial coefficients or K-factor(s) of the flow monitor are changed (see § 75.74(c)(2)(ii)(C)).

! ***RT 696 (fuel flowmeter accuracy test extension, p. 232-234)***. You can claim an automatic deadline extension for non-ozone season calendar quarters. In the ozone season, if you do not use the optional fuel flow-to-load ratio methodology in Section 2.1.7 of Appendix D, you can claim a one-quarter extension of the fuel flowmeter accuracy test deadline for any quarter which does not qualify as a "fuel flowmeter QA operating quarter" (as defined in § 72.2), including non-operating quarters. When the optional fuel flow-to-load ratio methodology is used, accuracy test deadline extensions may be claimed for that same reason, or for: (1) any quarter in which the optional fuel flow-to-load ratio test in Section 2.1.7 of Appendix D is performed and passed; or (2) any quarter in which fewer than 168 hours of fuel flowmeter data are available for the fuel flow-to-load ratio test, after allowable data exclusions are taken under Section 2.1.7.3 of Appendix D; or (3) any quarter in which the baseline data collection period for the fuel flow-to-load ratio test is still in progress, and fewer than four calendar quarters have elapsed since the quarter of the last successful fuel flowmeter accuracy test.

! ***RT 697 (RATA deadline extension or exemption, p. 234-236)***. Generally, do not use this RT -- the RATA deadline extensions do not apply for ozone season reporters. Only in rare cases when the conditional RATA exemption for non-redundant backup monitors (code 5) is claimed, would this RT be used.

! ***RT 698 (Quarterly QA test exemptions, p. 237-239).*** In the ozone season, the following exemptions can apply, as applicable to your monitoring systems: (1) linearity check, leak check, and flow-to-load ratio test exemptions may be claimed for any operating quarter that does not qualify as a QA operating quarter (the unit or stack operates for less than 168 hours); (2) a linearity check exemption may be claimed for a particular monitor range (e.g., the high or low range of a dual-span unit) if the range is not used during the quarter; (3) for NO_x span values of 30 ppm or less, an on-going linearity check exemption may be claimed; and (4) for complex exhaust configurations, an on-going flow-to-load ratio test exemption may be claimed if approved by petition to the Administrator under § 75.66 and Section 7.8 of Appendix A to Part 75. You may not claim an exemption from the required pre-ozone season linearity check unless your unit qualifies for the on-going exemption for a

NO_x span value $\leq$ 30 ppm). A 168 unit/stack operating hour grace period is conditionally allowed when the pre-ozone season linearity check is not completed by April 30th (see § 75.74(c)(2)(i)(D)(*1*) and the RT 699 instructions).

! ***RT 699 (QA test extension grace period, p. 239-241).*** The minimum frequency of linearity checks and associated grace periods set out in Appendix B, section 2.2.3(f), do not apply for ozone season reporters. You need to perform linearity checks both outside and inside the ozone season at the frequency specified in § 75.74(c)(2)(i) and § 75.74(c)(3)(ii) of Subpart H. Grace periods are conditionally allowed for the required pre-ozone season linearity checks, but not for the linearity checks required within the ozone season (see § 75.74(c)(2)(i)(D)(*1*) and § 75.74(c)(3)(ii)). See the ***EDR v2.1 Instructions*** for detailed conditions for qualifying for the grace periods and special reporting provisions for RT 699 for ozone season only reporters.

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APPENDIX A: MONITORING PLAN EDR CHANGES FOR ALL UNITS

Purpose of this Section

Even if a change in methodology is not required for your unit, changes have been made in the reporting format between EDR v2.0 and EDR v2.1. EDR format modifications include changes to already existing record types (e.g. discontinued and added codes, discontinued and added fields), as well as entire record types being removed and additional record types added. These changes for monitoring plan records are summarized in this section. Consult the ***EDR v2.1 Instructions*** for a detailed descriptions of reporting requirements for each record type.

RT 100 **Facility Identification**

Report "V2.1" for all submissions in column 15 in RT 100 (instead of "V2.0") once you switch to Subpart H reporting.

RT 101 **Record Types Submitted (optional)**

If you report RT 101 (this RT is optional), codes have changed in the parameter reported field. Codes SO2RTN and SO2RTOT have been removed, and Codes LOWMASS, MOISTUR, NOXRATE, OSNSUMM and QTRSUMM have been added.

RT 102 **Facility Location and Identification Information**

The only change between EDR v2.0 and EDR v2.1 is the reservation of column 90 to correct the county code field length. This should not require any changes to be made in your EDR.

RT 503 **Stack/ Pipe Header Definition Table**

Maximum Hourly Gross Load in MW (col. 37) and steam (col. 43) should no longer be reported in RT 503. Also, new fields for Stack Exit Height Above Ground Level (col. 62), Ground Level Elevation Above Sea Level (col. 66), Inside Cross-sectional Area at Flue Exit (col. 71) and Inside Cross-sectional Area at Flow Monitor Location (col. 75) have been added.

RT 504 **Unit Information**

Fields for Stack Exit Height Above Ground Level (col. 36), Ground Level Elevation Above Sea Level (col. 40), Inside Cross-sectional Area at Flue Exit (col. 45) and Inside Cross-sectional Area at Flow Monitor Location (col. 49) have been added.

RT 505 **Program Indicator for Report**

All units must add an RT 505 for OTC-SUBH and delete the existing RT 505 for NBP. Make sure all fields are accurate for participation in OTC-SUBH and represent the appropriate conversion date. Codes added to v2.1 are OTC-SUBH, SUBH and SIP.

RT 506 **EIA Cross Reference Information (NEW)**

This is a new record type that is required for all units.

RT 507 **Fuel Usage Data to Qualify as a Peaking Unit**

A code for ozone season peaking unit (SK) has been added to the Type of Qualification field (column 49), and a new field for the Method of Qualifying (column 51) has been added. If your unit has been qualifying as a peaking unit but then exceeds the capacity factor limits, submit a RT 507 that indicates that the peaking status has been lost (code PSL in column 51). See the ***EDR v2.1 Instructions*** for details.

RT 508 **Subpart H Reporting Frequency Change (NEW)**

This is a new record that should be reported in the appropriate quarter to indicate a planned change to the Reporting Frequency (as reported each quarter in RT 504). See the ***EDR v2.1 Instructions*** for details.

RT 510 **Monitoring Systems/ Analytical Components Table**

No fields have been added to or removed from RT 510. However, see the table below for code removals and additions. (Also, see the ***Acid Rain Program Policy Manual***, Question 7.1 if you plan to use the "like-kind" replacement analyzer provisions of Part 75.)

Table A-1: RT 510 Code Changes

Column	Field Name	Codes Added	Codes Removed
17	System parameter monitored	(none)	HI
23	Component type	CO2A, NOXA, O2DA and O2WA	(none)

RT 520 **Formula Table**

No fields have been added to or removed from RT 520. However, some codes have been added, removed or changed for v2.1. For parameter

Monitored (col. 14) codes removed from v2.1 include HGAS, HMOF, and HVOF (previously used to apportion long term fuel flow to each hour -- no longer required since only LME units may use long term fuel flow and those units do not need to report any formulas). The changes to Formula Code (col. 23) values are summarized below. See ***EDR v2.1 Instructions*** for detailed tables of all formulas.

Table A-2: RT 520 Code Changes

Para-meter	EDR v2.0 Formula Code	EDR v2.1 Formula Code	Description
NOX	19-3	19-3 and 19-3D	If you use any of these formulas and plan to use the diluent cap provisions of Part 75, you must add the "D" version of the formula to RT 520 and use it (and report that formula ID) for any hour in which you apply the diluent cap value to the calculation. See the directions for RT 520, in the ***EDR v2.1 Instructions.***
	19-5	19-5 and 19-5D	
HI	F-17	F-17 and F-17D	
NOXM	F-10A	F-24	Code change (same calculation - NO_x emission rate times heat input and operating time)
HI	F-20C	D-15A	Code change (calculates total heat input rate from multiple fuels at the same unit)
		F-21C	Code Change (calculates to total unit heat input rate from multiple stacks or ducts)
	F-20A	F-21A	Code change (same calculation - MW apportionment of heat input from common stack to constituent units)
	F-20B	F-21B	Code change (same calculation - Steam load apportionment of heat input from common stack to constituent units)
HI	H-1	none	Formula code removed
FGAS	none	N-GAS	New code (previously left blank)
FOIL	none	N-OIL	New code (previously left blank)
FW	F-7C	19-14	Code change (same calculation - wet F-factor)
H2O	none	M-1K	Moisture calculation using a K-factor of other mathematical algorithm per Part 75, App. A, Section 6.5.7(a)

RT 530 Span Table

There are two new codes for parameter Monitored (col. 10): GNOX and ONOX (to define missing data values for Appendix E NO_x monitoring). For flow span records, two required fields have been added: Flow rate span value in SCFH (col. 90) and Flow rate full-scale range value in SCFH (col. 97).

There are also two new field relating to the dual range requirements -- Dual Spans Required (column 84) and Default High Range Value (col. 85). If you have been using the default overscaling option allowed under OTC, you will need to either switch to dual ranges or use the Part 75 default high range provision (see RT 530 in Section 1 of this document and ***Part 75, Appendix A, Section 2.1.2.4(e)***).

RT 531 Maximums, Minimums, Defaults and Constants

Many values that were previously reported in RT 531 to define missing data values are no longer required. Similarly, values not previously defined in EDR v2.0 may now be defined. See the ***EDR v2.1 Instructions*** for a full discussion of the new uses for RT 531. Also, the following codes have been changed for reporting in this RT:

Table A-3: RT 531 Code Changes

Column	Field Name	Codes Added	Codes Removed
10	Parameter	CO2G, MHHI, MNHI, MNNX, MNOF, MNGF, H2OM, H2OX, O2M	NOX, FLOW, GAS, GCV, HI, HR, NOXC, OILM, OILV, DENS, GCV
34	Purpose or Intended use	DC, DM, LM	SE, SM
37	Type of Fuel	ANT, BT, LIG, SUB, W	(none)
41	Source of Value	DCPD, LME, MC, SAMP, CONT, DEF	EF, MEC, DES, NBP, PERM

RT 535 Unit and Stack Operating Load Data

The Designated Normal Load field in column 18 should be left blank for EDR v2.1. This information will be reported in RT 536 column 25.

If you previously reported a Single Load RATA Testing Only flag of "S" (State Approved), you should remove this value from RT 535. If you qualify for single load RATA testing as a bypass stack or a peaking unit,

report a B or P in this field. If, for a particular year, you qualify for single-load flow RATA testing under Part 75 because the unit has operated at a single load level for ≥ 85% of the time since the last annual flow RATA, leave this field blank but report RT 695 to claim the multi-load flow testing exemption for that year.

RT 536 **Range of Operation, Normal Load and Load Usage (NEW)**

Report this new record type for each unit, common stack or multiple stack with installed CEMS. Also submit RT 536 (columns 1 through 21 only) for a unit, common pipe or multiple pipe if you elect to use the optional quarterly fuel flow-to-load test in Section 2.1.7 of Part 75 Appendix D to quality assure a fuel flowmeter at that unit or pipe location.

RT 540 **Fuel Flowmeter Data**

In column 17, the type of fuel code NNG (Natural Gas) has been added. Also, specific codes have been established for the Initial Calibration Method in column 38; other values will no longer be accepted.

RT 555 **Monitoring System Recertification, Maintenance or Other Events**

This record type has been replaced by RT 556. Please discontinue use of RT 555.

RT 556 **Monitoring System Re-certification Maintenance, or Other Events (NEW)**

This record type replaces RT 555.

RT 560 **Appendix E NO_x Correlation Curve Segments**

In the Type of Fuel field (col. 54) codes NNG (Natural Gas) and PDG (Producer Gas) have been added.

RT 585 **Monitoring Methodology Information**

If moisture correction is required in any of your emissions formulas, add RT 585 for parameter H2O to indicate your moisture determination method.

Also, the list of valid codes has changed:

Table A-4: RT 585 Code Changes

Col	Field Name	Codes Added	Codes Removed
14	Monitoring Methodology	NOXG, NOXU, LTFF, MMS, MDF, MTB, MWD, FSA	ALT, GDEF, UDEF, LTGF, LTOF
24	Type of Fuel Associated with Methodology	NNG	R
28	Missing Data Approach	SPTS and REV75	DEF and LOAD

RT 586 **Control Equipment Information**

In the Control Equipment Code field (col. 14), many additional codes are now available. Codes added include DLNB, DA, DL, FBL, MO, SB, WL, WLS, B, ESP, WS, and C.

RT 587 **Unit Fuel Type**

Codes have been added for the primary/secondary indicator field (col. 29) to indicate that a fuel type qualifies as an emergency fuel (E) or is a fuel that is only used for ignition (I). If your unit burns oil only as an emergency fuel and you intend to use the exemption from fuel flow metering provided for emergency fuels (see the ***Acid Rain Program Policy Manual,*** Question 25.10), be sure to update the RT 587 for this fuel by reporting E in this field.

Also, a field was added (col. 31) to report "Demonstration to Qualify for monthly fuel sampling for GCV."

Additional Note Regarding Bypass Stacks

Currently, Subpart H only provides two option for determining NO_x emissions from bypass stacks at units using a NO_x CEM methodology -- either use CEMS on the bypass stack also, or use reference method monitoring (see § 75.72(c)). EPA has proposed revisions to this section that would add as a third option the use of the appropriate maximum default value(s) for every bypass hour. Under the proposed revisions, OTC units that are currently using CEM monitoring for the main stack and default values for bypass stacks and elect to continue with that approach will need to revise their monitoring plan because all emissions data will be reported at the unit level rather than at the multiple stacks. This would require deactivating the multiple stacks and all the systems, formulas and defaults at those stacks and adding those CEM systems, formulas and default values at the unit. Contact EPA or your State for

additional information if you have questions about bypass stack monitoring requirements under Subpart H.